CREATING A HIGH PERFORMANCE CULTURE

WITHIN

FRESENIUS MEDICAL CARE - NORTH AMERICA

January - December 2009

CREATING A HIGH PERFORMANCE CULTURE
within
Fresenius Medical Care - North America

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I DO NOT DO ANYTHING DIFFERENTLY.
THE PROCESSES ARE THE SAME.
I DO HOWEVER, KNOW AND WORK WITH MY PEOPLE.

BRETT BARTON

Creating A High Performance Culture Reports

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CREATING A HIGH PERFORMANCE CULTURE

Within Fresenius Medical Care - North America

INTRODUCTION

Much has been talked about with regard to the creation of high performance cultures within industry. Literature provides definition, speakers describe their visions, yet few have undertaken actual implementation. In the last quarter of 2008 the Fiber Division undertook an experiment in creating a high performance culture within Fresenius Medical Care – North America.

With fiber production processes in place, procedures validated, and a good production record we began looking for both controllable and uncontrollable variables that impact our production and also our operating culture. We now found ourselves at a crossroads. The road we had long been traveling has been deceptively an easy one filled with technological advances and lined with promises of quick fixes that would take us to a world class position.

During team meetings, staff meetings and training sessions we realized that the most challenging variable impacting our production ability was within ourselves. With state of the art equipment in place and operational, our attention shifted from equipment to people.

The road we have chosen is less traveled; on it we believe that we will play a major role in the preservation of our company. In doing so, equipment and information technology will be only part of our process. How we work with our people will become our focus and often will be the deciding factor in decisions. The choice is here for each of us. We must choose wisely.

The following pages indicate what took take place within our organization as we aligned operational excellence with human behavior. Our Operational Equipment Efficiency improved, morale increased. **We are creating a high performance culture.**

Results Summary

- Annual Production Records!!!
  - OEE = 89.2% (Maintained OEE of >90% for five consecutive months)
  - 142.8M Kilometres of Fiber
  - 40.8M Bundles
  - First Pass Lab Yield = 99.82% (UF and Geometry Control)
  - 2009 Positive Variance = $1,768,000
- Installed and validated 10 auto wrapping machines
  - Validated local film supplier
  - Unit cost savings = $0.03
- Line Pit Stop Block Rinse System
  - Downtime hours reduced by 20%
  - Spin Mass Scrap reduced by 10%
  - 2009 Savings = $505,000
- Certified 2 New Lean leaders
  - Completed 11 successful Lean Projects
  - 2009 savings = $335,000
- Spinneret Improvements
  - Completed over 9,800 SEM spinneret inspections = 66%
  - Manufactured over 2,400 new spinnerets
  - 2009 Savings = $170,000
- Developed Laboratory Process to Manufacture Polysulfone
  - Completed successful lab trials
  - Received approval to build a pilot plant

These exceptional leaders are masters in their craft.

Bob Bercher	A-Shift Production Supervisor
Lee Bradbury	B-Shift Production Supervisor
Jason Hardy	C-Shift Production Supervisor
Rick Connell	D-Shift Production Supervisor
Bruce Mayhew	Technical II Supervisor
Greg Kunz	Rectification Supervisor / Process Engineer
Todd Harris	Compounding Supervisor / Process Engineer
Paul Taylor	Fiber Maintenance Supervisor
Wade Paskett	Validation Engineer / QC Supervisor
Don Tobler	Spinneret / Block Maintenance Supervisor
Raj Savariar	Polymer Development Manager
Justin Pitt	Plant IMPAQ Leader
Gail Perkes	Technical Trainer / Process Engineer Technician
Jennifer Fielding	Secretary / Training Coordinator

Collectively and with their teams they all have made themselves champions.

CREATING A HIGH PERFORMANCE CULTURE

WITHIN

FRESENIUS MEDICAL CARE - NORTH AMERICA

REPORTS

CREATING A HIGH PERFORMANCE CULTURE
within
Fresenius Medical Care - North America

IT'S ALL ABOUT YOUR PEOPLE

Brett Barton

Director of Fiber Manufacturing

Fresenius Medical Care - North America

January – December 2009

"I do not do anything differently. The processes are the same. I do however, know and work with my people."

Brett Barton
Director of Fiber Manufacturing

Brett started working at Fresenius in 1997 as a Software Control Engineering Technician. In 2000 he began managing the Fiber department. He accepted the additional responsibility of managing the Rectification Area in 2005. And, he continues directing operations in both areas.

IT'S ALL ABOUT YOUR PEOPLE

I have always wanted to be the best – isn't that what all of you want?
So, I drove others to be the best; by forcing people to improve.
I created disconnects between my teams, our results and me.
My people and I were suffering.

Don't spend time beating on a wall, hoping to transform it into a door.
Dr. Laura Schlessinger

PERSONAL BARRIERS

We hit a plateau of performance within my area of the manufacturing process. It was obvious that we were not going to get any better. Under my leadership the company and I placed emphasis on technology, and process improvements. It quickly became obvious that we needed something more. We took a risk with Managing Expectations and stepped into an area that is not traditionally measurable.

The foolish man seeks happiness in the distance; the wise man grows it under his feet.
James Oppenheim

I began changing first. It was a simple process that initially was a challenge. From that process I realized that for others to follow my lead I needed to step out of my work and personal comfort zones.

You don't lead by pointing and telling people some place to go. You lead by going to that place and making a case.
Ken Kasey

The comfort zone shattering tactic I used was list making. This is a low risk yet difficult process that enabled me to think beyond my self-imposed limitations. My initial lists were based in personal achievement; my strengths were the first. Other lists were What I Wanted, What I Could Do Differently and What I Am Grateful For. I began generating new ideas and acting differently. These lists stirred emotions within myself and it was then that I realized one of the missing elements among my staff was the emotional and personal connection.

No man can persuade people to do what he wants them to do unless he genuinely likes people and believes that what he wants them to do is to their own advantage.
Bruce Barton

You may want to become comfortable with list making. I have had supervisors and managers use this tactic. They discovered that they easily were able to step out of their individual boxes. As we moved out of our comfort areas, we collectively started innovating. Individuals began removing barriers from among themselves. Surprisingly from such a simple tactic work assignments were personalized. Innovation accelerated.

> *Leadership is not a magnetic personality – that can just be as well as a glib tongue. It is not making friends and influencing people – that is flattery. Leadership is lifting a person's vision to higher sights, the raising of a persons performance to a higher standard, the building of a personality beyond its normal limitations.*
>
> *Peter F. Drucker*

When you get to this level of understanding within your work assignments you as a leader will realize where your people are having problems. You will become both willing and able to support individuals in taking care of the personal situations that interfere with production goals. Making lists was one tool that opened the way for my teams and I to create a common focus built on loyalty and trust.

> *Leadership is a two-way street, loyalty up and loyalty down. Respect for one's superiors and care for one's crew..*
>
> *Admiral Grace Murray Hopper*

LISTENING

I became comfortable listening. I listened to everything that Team Members, Supervisors, and other Managers had to say. I realized my opinions were only one of many. The staff meetings improved. Team members became open to others positions. Being open required that information be shared. Others started listening and asking questions. If I asked the right questions I could impact results better than if I presented the resolution. The results surprised me as we created an environment of open discussion and free-floating ideas. My team leaders and their teams began improving. I began to believe that we could accomplish anything!

> *Nature has given us two ears, two eyes and but one tongue - to the end that we should hear and see more than we speak.*
>
> *Socrates*

Make your questions general questions. Your general questions must be broad enough to allow team members to develop their own solutions. Questions will shift your role from a manager into one of a leader. The right questions will start taking each person in our group to where they could not get on their own. Open your ears to participation and pay attention to how you are perceived.

The Greatest compliment that was ever paid to me was when someone asked me what I thought, and attended to my answer.

Henry David Thoreau

THE RIGHT PERSON FOR THE JOB

I no longer need the right person for the right job. I took it upon myself to develop ways to build each of my supervisors and managers. They in turn began building their team leaders and each other.

Never take someone for granted. Hold every person close to your heart because you might wake up one day and realize that you have lost a diamond while you were too busy collecting stones.

Unknown

It will be easy for you to see that someone does not fit in his or her position. It may not be easy for you to build people to manage others and exceed expectations. Yet once you know how to strengthen your people and yourself, the results will be proof enough. Make the mission the main thing. Focus on your people as well as your purpose. Let values be your guide. Go for the diversity advantage!

Give a man a fish, and you will feed him for a day. Teach a man to fish and you will feed him for a lifetime.

Chinese Proverb

UNDERSTANDING

Initially we were not open with our communications. Team members were unwilling to talk and discussions were generally one sided. When an issue needed discussion and input, responses were crafted to fit what either I or other leaders wanted. Even in that situation we were able to innovate and, in general, we did a good job. Now that is not the case.

You never really understand a person until you consider things from his point of view – until you climb inside of his skin and walk around in it.

Atticus Finch

All of our discussions are now open and at times intense. Often there is laughing and joking. We discovered that we had one common objective; our focus is on success. Nothing is looked at as impossible. With this attitude firmly in place we are able to overcome huge challenges.

R*ecognize -the inherent worth of all people*

E*liminate -negativity*

S*peak-with people-not at them...or about them*

P*ractice-empathy, walk awhile in others shoes*

E*arn-respect from others through respect-worthy behaviors*

C*onsider-others before speaking and acting*

T*reat-everyone with dignity and courtesy*

Eric Harvey and Steve Ventura
Walk the Talk

Our tipping point came during a weekly two hour department staff meeting. The discussion was about responsibility. Someone slipped and fell in the company parking lot. The question presented was who was responsible for the injury. Opinions flared. Each member of the management group voiced their position. The discussion lasted for an additional hour and a half. While the group discussed I observed. I realized that each member of my department's team had an opinion and that they would stand up and defend their position. From that realization all of our meetings shifted.

In the long run, we shape our lives, and we shape ourselves. The process never ends until we die. And the choices we make are ultimately our responsibility.
Eleanor Roosevelt

We have a mutual understanding. I do not offer solutions. Team members are free to voice any opinion on any topic. Yet, at some point they are going to be asked to provide the data that supports their position.

Don't tell people how to do things, tell them what to do and let them surprise you with their results.
General George S. Patton

Too often people in a large organization are thought of as tools. Leaders frequently ignore the emotional side of their organization. Do not allow that to happen within your department. You can create ways to successfully align your strategic objectives with each leaders drive to excel. Those leaders in turn will become passionate to improve and do what is necessary to achieve their objectives. This works when relationships are united such as in a family and, as in a family, you may begin to treat each other

as brothers and sisters. Expect that you will have some rough times. You may experience yelling and have emotional upsets. But when it comes time to competing, achieving and excelling; your team will come together in ways no one could have imagined. Understanding and acting on who we individually are really works.

Successful leaders lead with the heart, not just the head. They posses' qualities like empathy, compassion and courage.
Bill George

Change happened some could not accept it. Some started succeeding and others could not accept their improvement. I needed to intervene. I needed to understand the emotional side of each person.

I believe that every person has the ability to achieve something important, and with that in mind I regard everyone as special.
Mary Kay Ash

Once your workers finally realize that they are valued to a point of realizing everyone is different you will have opened up the field for innovation. You will create opportunities by destroying the barriers.

When the best leaders work is done the people say, "We did it ourselves!"
Lao Tzu

RESOURCES V. S. RESOURCEFULNESS

Early on my people were just tools; they were resources to get things done. With them I could direct and control them to do what I wanted them to do. At that point there was no personal alignment with the individual and their personal goals. Individuals did only what they were told. There was adequate performance and within that situation there was no room for creativity or innovation. The workers were pulled in the direction I wanted them to go. I answered their questions, I provided their answers, and I was the central player.

When a man points a finger at someone else, he should remember that four of his fingers are pointing at himself.
Louis Nizer

Expect to become extremely tired. You may feel that you must have control over everything. I did! My staff acted as a staff. They were messengers alerting me to the problem at hand. And I realized that I was not getting the results needed to expand the department. I had to change.

You must be the change you want to see in the world.

Mahatma Gandhi

During the change process, three transitions occurred:

Transition 1 – From Message to Data

Begin asking questions. When team members bring you messages, ask for data. Then when team members come back with data, jointly arrive at a solution.

Transition 2 – Data to Solution Discovering

Work together to determine solutions
Gradually put time into a position of solution finding and Innovation
Expect team members to become accountable and grow in responsibility as they expanded their skills and abilities to become a leader for their respective area.

Transition 3 – Solution Discovering to Resolution

Over time your team members will evolve from a messenger, into delivering a message and stating that they have resolved the situation.

The ultimate measure of a man is not where he stands in the moments of comfort and convenience, but where he stands at times of challenge and controversy.

Martin Luther Ling. Jr.

The Transitions moved the department into a period of transformation. When we took ourselves out of our individual roles our functional ability increased beyond what one individual could handle. Out of necessity you will have to get your teams involved in doing what you would do if you were in their place

Do something. If it works do more of it. If it doesn't, do something else.

Franklin D. Roosevelt

LEADERS ROLE

I moved out of the trenches and began leading. You can too!

In doing this I removed significant silos by elevating my team members to star performers. No longer am I pulling people to do what they need to do, those people are pushing me. We have created the model for forward thinking, innovation, and high performance.

> *It is your attitude, not your aptitude that determines your altitude.*
>
> *Zig Ziglar*

Initially, I was the driver and set the direction. Next I became the mediator providing the glue to hold things together, to support and balance change. Now, things are different. I have become the facilitator, the behind the scenes engineer. Sadly, too many leaders find themselves stuck predominantly in only one of the three roles. When, and only when, they step out of what they think works will they be able to reach the level of flexibility that enables true innovation. Proof - Each one of my staff has pioneered a new style of leadership. They have done this through their own volition and on their own terms. Now, we are together racing into an exciting future of expanded responsibilities and possibilities.

> *A good leader inspires others with confidence in him; a great leader inspires them with confidence in themselves!*
>
> *Unknown*

THE CULTURE

Our culture creates and manages risk. We are comfortable being uncomfortable. We live and manage in Objective Reality. We don't believe that security exists. We are calm and always grateful. We give without expectation. We operate with love and abundance. We embrace our intuition and from this ideas develop. We are responsible, accountable and eager to learn. We are solution oriented. We are humble and coach through emotions. We cannot fail; we can only learn and grow!

> *As I grow older, I pay less attention to what men say. I just watch what they do.*
>
> *Andrew Carnegie*

Acknowledgments

First and foremost I am grateful for my wife, best friend and soul mate Angelina. She was the one who first proved to me that people could really change if they open up their hearts. She has taught me so much about values, people, personalities, the power of inspiration and the true meaning of “letting your heart guide you”. Her support, courage, and empathy has given me the vision and guided me throughout this changing process. Without her I truly would still be lost.

I would like to specially thank and acknowledge my assistants Jennifer Fielding and Gail Perkes. Their dedication, loyalty and tenacity has brought our team into harmony with one another. Their ability to accurately interpret, capture and report all of the KPI’s, has raised the entire team to a higher level of accountability. They have developed and refined one of the best reporting systems that I have had the pleasure of working with. Without this we would have not been able to accomplish these culture changes and world class results.

I would also like to thank and acknowledge the rest of my operating staff members, Todd Harris, Greg Kunz, Wade Paskett, Don Tobler, Bruce Mayhew, Bob Bercher, Lee Bradbury, Jason Hardy, and Rick Connell. Without their trust, loyalty, dedication, persistence, willingness and tenacity this cultural change could not have happened.

I must acknowledge my friend Charles Acklin. Without his assistance, guidance and knowledge I would have not known where to start. His Managing Expectations processes have produced results beyond my wildest dreams. His willingness to make changes along the way and adapt his systems to my people individually made this project very successful.

Finally, I must acknowledge and thank the Executive Management of Fresenius Medical Care North America for allowing me to make mistakes, supporting me during a tough beginning, having confidence in me and my team, clearly communicating the company values and the vision, and for the empowerment to develop a high performance culture.

CREATING AWARENESS
Removing Silos While Improving Processes

Gail Perkes

Fiber Technical Trainer /Process Engineering Technician

Work Assignment:
Train production team members, supervisors, compounding and maintenance staffs.

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"Remember, attitude is just a direction in which we lean. Strive to be the best and never settle for anything less."

Gail Perkes

Fiber Technical Training Instructor/ Process Engineering Technician

Gail began working at Fresenius in Oct 1992 as an Assembly Line worker in the Devices Department. In late 1993 she transferred to Molding as a Machine Operator and then later became a Material Handler. In 1995, before the start of Fiber Line 1, Gail was hired as a Material Handler for the Fiber Department. Material Handlers then were trained to perform wheel changes and start/ shutdown the machines. This was so we could relieve other operators for break. She became an Alternate Compound Technician for about six months then transferred to the Fiber lab as a lab technician in 1996. In 2000, She was promoted to Senior Lab Technician. Eight years later she stepped out of her comfort zone in the fiber laboratory by accepting a promotion as Fiber Technical Training Instructor.

ABSTRACT:

How could production be improved when the current failures are not our fault? A production shift is not meeting its goals. The employees do not know what to do and some firmly believe the situation is not their fault. When directions are clear and if leaders can adjust their leadership style results will improve.

TABLE OF CONTENTS:

Introduction

How could production be improved when the current failures are not our fault? A production shift is not meeting its goals. The employees do not know what to do and some believe the situation is not their fault. There is little team work within the group. This group must change quickly.

Statement of Purpose

Improve a shifts attitude and measure the attitude shift by charting improvements in production.

Research Conducted

Initial observations indicated that the shift workers did not have full awareness of their production problem. The magnitude was beyond their comprehension. The shift goal was 88% Operating Equipment Efficiency (OEE). (Attachment 1: 2009 Goals)

Their OEE was declining between May, June and July 2009. In June 2009 OEE was at 84.8 %. They were 3.2 percentage points off their goal. The value of each percentage point of the shift is estimated at $125,000 per year. The estimated loss for the previous 4 weeks from this shift is significant. The results of my research indicated that something to adjust the attitudes and sustain improvements was necessary. (Attachment 2: June Production Report Example)

Hypothesis

An intervention is needed immediately and a miracle would help. If I could work with the shift supervisor then shift workers could generate ideas for improvement that would be generally accepted by the workers. I would prove this by tracking the shift production reports.

Procedure Lists

Materials

- Shift Production Graph
- PowerPoint Presentation
  - Change
  - 90/10 Principle
  - Communication
  - XY Theory
  - Windows of Life
  - Synergy
  - Ignoring the Obvious
  - Assumption

Procedures

1. Present the issue – Production is Bad!
   Explain current production numbers and display the production graph.

2. Create realizations that the individual shift member was responsible.
   Point out that the graph represents their results.

3. Engineer a team mentality.
   a. Explain the importance of their results.
   b. Require area operators to explain the situation to their teams.
   c. Conduct bi-weekly meetings using attitude shifting PowerPoint presentations.
   d. Discussion (Attachment 3– Shift OEE Awareness Meeting)
      List things we are currently doing to improve OEE.
      List things we could do differently to improve OEE.

4. Plan to continue bi-weekly meetings.

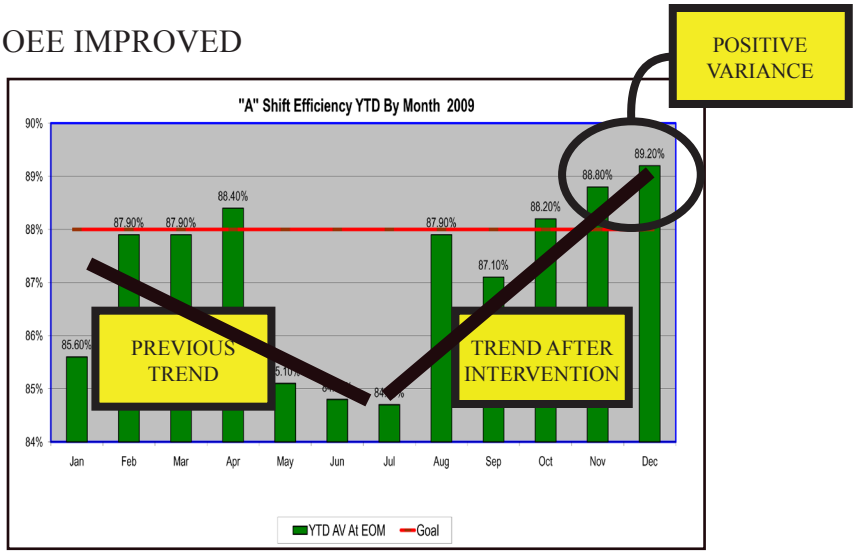
5. Monitor daily results.

6. Provide feedback to the Shift Supervisor.

Results

2009 A-SHIFT IMPROVEMENT INTERVENTION
84.8% to 89.2 % = 4.4% Increase in Production
2009 Improvement Value = $550,000

1. OVERALL OEE IMPROVED



There was an immediate shift in attitude when the individual line workers realized that their team effort was improving their OEE numbers.

2. VALUE BASED RELATIONSHIP SKILLS IMPROVED

Observations made during group meetings indicated that participants were willing to accept others' opinions and ideas.

- Participants were able to give and receive constructive criticism.
- Listening took place.
- Openly shared improvement ideas.
- Participants were anxious to participate in shift training meetings.
- They applied what they were learning and were proud of their results.
- Results focused, competition surfaced.
- Participants praised each other as they reported their daily results.
- Senior Area Operators passed information on to their line workers.
- Senior Area Operators practiced becoming a facilitator for their group.

3. PRODUCTION IMPROVEMENT TRENDS LINKED TO VALUES PRACTICED

Individuals practiced Honesty, Respect, Quality Innovation and Team Work and successfully translated these values into production improvements.

Conclusion

The leader in this situation has a strong military background and management style. The Senior Area Operators resisted being given orders. Results suffered.

The leader needed to change his way of presenting his expectations. The Senior Area Operators needed to become more open to ideas other than their own.

The leader (on his own) adjusted his behavior and withheld direct orders while giving control to Senior Area Operators.

Operators responded with:

- Increased confidence
- Higher personal accountability
- Courage to innovate
- Skill in changing their environment into a highly productive work place

Based on the environmental shift, the leader increased respect from his teams. Then, when behaviors are aligned with a common vision and a common goal, the synergy that occurs allows groups to break through self imposed silos.

Improvement Suggestions

Improvement Suggestions

1. Understand that a cultural change must precede a production shift.
2. Start sooner, attack issues before an issue negatively impacts production.
3. Realize the power of individual involvement when creating a solution.
4. Come up with creative and simple ways to support behavior change.
5. Never underestimate the effectiveness of individuals to make a change.

Sustaining Measures

1. Install this process throughout the Fiber Department.
2. Creatively use stories, illustrations, and PowerPoint presentations to support changes.
3. Promote the effectiveness of feedback when making change happen.

Acknowledgements

Bob Bercher and the A-Shift staff for wanting to find new ways to improve and asking for assistance.

I would like to thank Brett Barton for his contagious #1 attitude of being the best all of the time. This attitude has spread through the department and provides continuous motivation not only to his direct reports but also to his production workers. I would also like to thank him for his continuous support and trust he has instilled in each of us. It has given me great confidence to step outside of that comfort zone and really see what possibilities and goals can be achieved.

I would also like to thank Charles Acklin for providing an organized structure to make changes and see results both on a personal level and on a professional level. He is a great teacher and is willing to share his successes and failures to make people better.

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Attachments

1. 2009 Goals

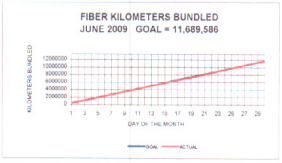
Ogden 2009 Goals
Fiber

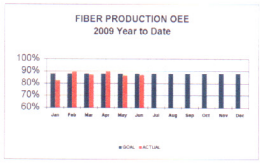
Goal Stretch	2008 Actual	2009 Budget	2009
Meet Standard Cost per km (PSF Material Increase)	$0.35	$0.39	$0.36
Meet Production km Quantity 140,400,000	127,976,675	138,842,000	
Operational Equipment Efficiency	87.6%	88%	89%
Increase First Pass Yield – Lab	99.68%	99.68%	99.7%
Bubble Point Reduction	2.20%	1.75%	1.65%
Increase First Pass Yield – Production (New Wrapping Machines)	98.61%	98.7%	98.9%
Fiber Related Dialyzer Rejects/Returns (New Wrapping Machines)	0.09%	0.08%	0.08%
Safety Rate Improvement /100 workers	9.26	5.96	4.47
Training – Hrs/Employee	98.66	90	105
Employee Retention	83.4%	84.5%	86%
Internal Defect Reduction (NCR)	0	0	0
Fiber Inventory Turns	11.12	12.2	13.2
Zero Major Compliance issues	None	None	None

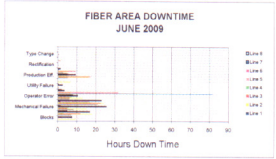
2. June Production Report Example

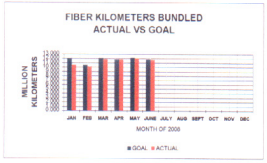
FIBER PRODUCTION REPORT
JUNE 2009

Date 2/25/2010









JUNE BUNDLE PRODUCTION		
PRODUCED	SAMPLED	REJECT
3,409,327	7,413	97,124

JUNE DEPARTMENT OEE
87.0%

DEPT GOALS IN PROGRESS

	ACTUALS	GOALS	VARIANCE	ACHIEVED GOAL	MILLION KM BUNDLED MONTH	ACTUAL	GOAL
MONTHLY							
Bundle Quantity	3,409,327				Jan	10.491	12.003
Kilometers Bundled	11,658,775	11,689,586	-30,811	No	Feb	10.133	10.424
First Pass Yield-Lab	99.98%	99.68%	0.30%	Yes	Mar	11.835	12.089
Dialyzer Returned Rejects	0.17%	0.08%	0.09%	No	Apr	11.718	11.707
First Pass Yield-Production	97.15%	98.70%	-1.55%	No	May	11.994	12.124
OEE	87.0%	88.0%	-1.03%	No	Jun	11.659	11.690
Safety	2	0	2	No	Jul	0.000	0.000
					Aug	0.000	0.000
YTD					Sep	0.000	0.000
Bundle Quantity	19,527,992				Oct	0.000	0.000
Kilometers Bundled	67,776,399	69,660,858	-1,884,459	No	Nov	0.000	0.000
First Pass Yield-Lab	99.77%	99.68%	0.09%	Yes	Dec	0.000	0.000
Dialyzer Returned Rejects	0.23%	0.08%	0.15%	No			
First Pass Yield-Production	98.19%	98.70%	-0.51%	No			
OEE	86.7%	88.0%	-1%	No			
Safety Rate/100 Workers	9.2	5.96	3.26	No			
NCR/ PPM	0	0	0	Yes			
Training Hours	94.71	90	4.706	Yes			
Employee Retention	96.60%	84.50%	12.10%	Yes			
Standard Cost per km	$0.38	$0.39	($0.01)	Yes			
Bubble Point Reduction	2.34%	1.75%	0.59%	No			
Fiber Inventory Turns	12.11	12.2	(0.09)	No	Total	67.829	

DOWNTIME HOURS PER LINE

CATEGORY	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8
Blocks	0.0	9.4	0.0	0.0	13.9	1.8	7.4	0.0
Improper Machine Setup	7.1	18.0	12.0	2.8	0.2	0.7	16.7	4.8
Mechanical Failure	8.1	15.2	4.9	5.6	4.9	2.8	25.6	1.2
Routine Maintenance	20.8	24.2	22.5	17.1	1.1	16.3	1.0	22.8
Operator Error	5.9	13.0	6.2	7.3	4.3	7.3	10.4	7.7
Unknown	81.6	6.8	31.8	0.0	2.2	0.8	3.4	1.7
Utility Failure	0.3	0.3	0.3	0.0	0.0	0.2	2.4	0.2
Validations	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0
Production Eff.	4.8	16.1	17.0	4.9	4.9	2.7	9.3	4.8
Looping Fibers	2.7	5.0	9.0	0.0	0.0	0.0	0.1	1.3
Rectification	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Training	0.0	0.0	1.3	0.2	0.0	0.0	0.0	0.0
Type Change	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.0
Raw Materials	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fire Alarm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fiber Quality	0.9	9.0	0.0	0.0	0.9	2.2	8.9	0.0
Lab Failures	0.0	0.9	0.9	0.5	2.0	0.0	0.0	0.0
TOTAL	132.3	124.6	105.9	38.4	34.4	35.3	85.2	44.5
LINE MONTHLY OEE	**81.6%**	**82.7%**	**85.3%**	**94.7%**	**95.2%**	**94.8%**	**88.1%**	**93.8%**

FIBER AREA REJECTS

CATEGORY	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8
Incorrectly Wrapped	53	193	102	218	245	427	156	27
PE Wrap Length	50	30	13	20	7	0	24	9
Dam. By Cut Machine	1853	2848	2080	699	1658	2248	1403	1252
Fell on Floor	651	836	690	360	563	733	883	752
Kinks/Loops	4342	4958	6269	2979	2096	3541	4555	4628
Bad Cuts	443	811	641	557	524	635	1063	957
Long	27	51	7	1	19	182	49	4
Short	346	481	336	631	250	663	532	474
Particulate/Dirty	626	265	227	294	455	770	1003	752
Pulled	258	336	427	78	456	275	608	209
Training	0	0	52	96	0	0	16	0
Dam. By Auto Wrapper	2878	1721	0	2761	1423	3562	5375	8066
Total	11527	12530	10844	8694	7696	13036	15667	17130

FIBER SHIFT REJECTS

CATEGORY	A-SHIFT	B-SHIFT	C-SHIFT	D-SHIFT
Incorrectly Wrapped	321	265	339	496
PE Wrap Length	2	47	8	96
Dam. By Cut Machine	4162	4190	2606	3083
Fell on Floor	1646	1476	1283	1063
Kinks/Loops	10645	10252	6600	5871
Bad Cuts	1580	1776	1166	1109
Long	124	77	79	60
Short	1140	1148	554	871
Particulate/Dirty	2135	922	675	660
Pulled	733	823	353	738
Training	136	0	12	16
Dam. By Auto Wrapper	10693	8046	3598	3449
Total	33317	29022	17273	17512

Bubble Point	0	0	0	0	0	0	0	0
Geometry	0	0	0	0	0	0	0	0
UF	0	0	0	0	0	600	175	0
Other	0	23	0	0	0	0	16	9
Monthly Yield	100.00%	99.99%	100.00%	100.00%	100.00%	99.85%	99.95%	100.00%

LINE RUNNING HISTORY

	LINE 1	LINE 2	LINE 3	LINE 4	LINE 5	LINE 6	LINE 7	LINE 8
Last Block Rinse	6/11/2009	6/18/2009	6/4/2009	6/15/2009	5/25/2009	6/25/2009	7/5/2009	6/29/2009
Last Hot Rinse	4/1/2009	3/24/2009	7/6/2008	7/7/2008	1/15/2009	1/18/2009	8/8/2008	8/19/2008
Days Running	27	19	34	23	44	13	3	9

SHIFT GOALS IN PROGRESS YTD

	ACTUALS	GOALS	VARIANCE	ACHIEVED GOAL
A-SHIFT -Bob Bercher				
Bundles Produced	4,821,956			
Kilometers Bundled	16,762,235	17,326,705	-564,469	No
First Pass Yield-Production	97.82%	98.70%	-0.88%	No
Training Hours	91.18	90	1	Yes
OEE	84.8%	88.0%	-3%	No
Safety YTD	3	0	3	No
Fiber Returns	0.07%	0.08%	0.01%	Yes
B-SHIFT -Lee Bradbury				
Bundles Produced	4,945,826			
Kilometers Bundled	17,193,046	17,377,615	-184,570	No
First Pass Yield-Production	98.05%	98.70%	-0.65%	No
Training Hours	87.38	90	-3	No
OEE	87.0%	88.0%	-1%	No
Safety YTD	0	0	0	Yes
Fiber Returns	0.09%	0.08%	0.00%	No
C-SHIFT -Jason Hardy				
Bundles Produced	4,859,534			
Kilometers Bundled	16,842,780	17,191,345	-348,565	No
First Pass Yield-Production	98.56%	98.70%	-0.14%	No
Training Hours	85.4	90	-5	No
OEE	86.4%	88.0%	-2%	No
Safety YTD	1	0	1	No
Fiber Returns	0.08%	0.08%	0.00%	No
D-SHIFT -Rick Connell				
Bundles Produced	4,900,676			
Kilometers Bundled	16,978,335	17,136,337	-158,001	No
First Pass Yield-Production	98.35%	98.70%	-0.35%	No
Training Hours	94.7	90	5	Yes
OEE	87.6%	88.0%	0%	No
Safety YTD	3	0	3	No
Fiber Returns	0.06%	0.08%	0.02%	Yes
TECH SPECIALIST II -Bruce Mayhew				
OEE	86.73%	88.0%	-1.27%	No
Safety YTD	0	0	0	Yes
Training Hours	179.76	90	90	Yes
Pit Stop	17.15	16	1	No
LAB/PROC PREPS -Wade Paskett				
First Pass Yield	99.77%	99.68%	0.09%	Yes
Safety YTD	0	0	0	Yes
Training Hours	153.26	80	73.26	Yes
Bio-burden (Concern Letters)	6	18	-12	Yes
MAINTENANCE -Paul Taylor				
OEE	86.73%	88.0%	-1.27%	No
Safety YTD	0	0	0	Yes
Training Hours	49.96	90	-40.04	No
COMPOUNDING -Todd Harris				
OEE	86.73%	88.0%	-1.27%	No
Safety YTD	0	0	0	Yes
Training Hours	46.34	90	-43.66	No
SPIN BLOCK TECHS -Don Tobler				
OEE	86.73%	88.0%	-1.27%	No
Safety YTD	0	0	0	Yes
Training Hours	90.12	90	0.12	Yes
Spinnerette Production	200	200	0	Yes
RECTIFICATION -Greg Kunz				
OEE	87.70%	88.0%	-0.30%	No
Safety YTD	1	0	1	No
Training Hours	95.16	90	5.16	Yes

DOWNTIME HOURS PER SHIFT

CATEGORY	B. Bercher A-SHIFT	L. Bradbury B-SHIFT	J. Hardy C-SHIFT	R. Connell D-SHIFT
Blocks	10.6	11.5	19.3	3.9
Improper Machine Setup	9.7	21.5	8.4	10.0
Mechanical Failure	31.3	18.9	8.5	10.5
Routine Maintenance	14.9	21.9	43.1	45.9
Operator Error	10.5	19.4	17.0	14.3
Unknown	39.6	25.1	32.2	31.4
Utility Failure	2.9	0.8	0.0	0.0
Validations	3.9	0.0	2.7	0.0
Production Eff.	43.2	3.7	11.9	5.7
Looping Fibers	12.2	5.0	0.9	0.0
Rectification	0.0	0.0	0.0	0.0
Training	1.5	0.0	0.0	0.0
Type Change	0.0	0.0	0.0	0.8
Raw Materials	0.0	0.0	0.0	0.0
Fire Alarm	0.0	0.0	0.0	0.0
Fiber Quality	5.4	7.6	4.2	4.8
Lab Failures	0.5	0.0	0.6	3.2
TOTAL	186.2	135.3	148.8	130.2
SHIFT MONTHLY OEE	**84.6%**	**88.4%**	**86.1%**	**87.9%**

3. Shift OEE Awareness Meeting Results

A-SHIFT OEE AWARENESS MEETING 8-5-09

Things we <u>could</u> do differently to improve our OEE…

Line 1:
- Get extra wheels on the line to help prevent backup when there are issues with the auto-wrappers
- Get extra wrap holders to decrease the wrap change time
- Visual reference for inspection to quickly identify good / bad bundles
- Better communication as a team
- Ensure rejects are logged
- Be an example to all employees
- Fix as many bundles as possible
- Use the transfer totes
- Fix the haspel guides (horizontal guides stick – A Winder)

Line 2:
- Better teamwork efforts
- Better communication
- Fix as many bundles as possible
- Log the hourly count

Line 3:
- Keep track of the hourly count to create awareness

Line 4:
- More inspection of the bundles
- Tilt wheels to eliminate waste
- G winder air pressure adjustment on the venturi to eliminate twisted fiber

Line 5:
- Work more as a team
- Tilt wheels to eliminate waste
- Fix the twisting on the wheel by moving the tail back to the next corner fork
- Folllow people out on wheel changes (creates continuous flow for wheel changes)
- Fix as many bundles as possible
- Inspect the wheel before it gets cut
- Better communication
- Use totes to transfer bundles

Line 6:
- Perform timely wheel changes
- Fix as many bundles as possible

Line 7:
- Fix as many bundles as possible
- Faster wheel changes
- Trip the accumulators

Line 8:
- Tilt the wheels to eliminate waste
- Avoid twisted fiber in the venturi

Things we <u>are</u> currently doing to improve our OEE…

Line 1:
- Tripping accumulator to gain shorter tails
- On time wheel changes
- Winder to wrapper travel time

Line 2:
- Inspecting bundles before cutting
- Three man rotation during breaks (one at the cutter, one at each of the 2 cutting tables)
- Asking Winding operators for suggestions and feedback

Line 3:
- Faster wheel changes through coaching
- Tilting wheel for shorter tails
- Fixing more bundles

Line 4:
- Using the K1 manual wrap change on the auto wrapper. Two operators can change the wrap in half a wheel
- Inspecting for proper wrapping on the wrapper machine instead of moving it to the cutting table to inspect

Line 5:
- Good communication
- Inspecting bundles before the final cut is made
- Being a motivator

Line 6:
- Three man rotation during breaks (one at the cutter, one at each cutting tables)
- Make all boxes for shift by 6:30

Line 7:
- Focusing on teamwork and communication
- Working with maintenance to eliminate issues

Line 8:
- Tripping venturis
- Inspecting bundles before wrapping them
- Fixing as many bundles as possible
- Keeping track of the hourly count

OEE IMPROVEMENT
Empowering Senior Area Operators to Create, Innovate, and Improve Operator Efficiency.

Bob Bercher

A-Shift Production Supervisor

Work Assignment:
Supervise the daily production activities of eight fiber lines including supervision of two technical specialists, thirty-eight production operators and line workers for those lines.

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

" If you always do what you always did,
you'll always get what you always got!"
Unknown

"Lead, Follow, or Get out of the way!"
Thomas Paine

"If everyone is thinking alike, then no one is thinking at all."
General George S. Patton, Jr.

"RESPONSIBILITY = ACCOUNTABILITY = CONSEQUENCES"

"CHANGE is essential if improvement is to be achieved."

Bob Bercher

A-Shift Production Supervisor

In May, 2002 Bob began working at Fresenius as a Shift Production Supervisor. The job assignment has increased in responsibility to supervising eight Fiber Production Lines. An additional increase in responsibility to ten production lines planned for the future expansion.

ABSTRACT:

Overall goals for Operating Efficiency were 88%. Year-to-date A-Shift efficiency was 84.7% in May 2009. Something needed to change. If the A-Shift Senior Area Operators could present ideas for OEE improvement that worked or could work then each of them could try the ideas on their individual lines.

TABLE OF CONTENTS:

Introduction

Between January and May 2009, each of the eight fiber lines were given their production numbers and Overall Equipment Efficiency (OEE) scores bi-weekly. Daily feedback was given on the previously day's work. Each line operated autonomously. Overall goals for Operating Efficiency were 88%. Year-to-Date A-Shift efficiency was 84.7% in May 2009. Something needed to change.

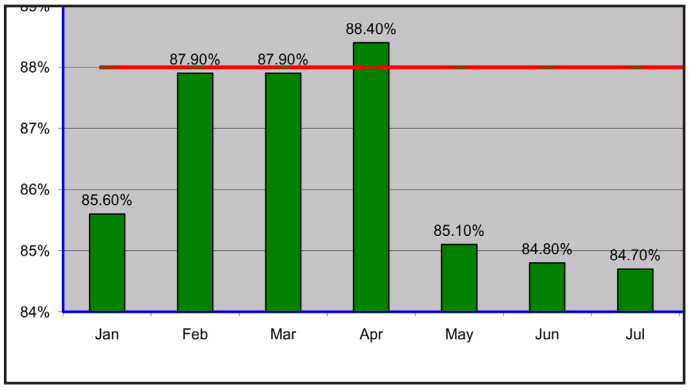
Statement of Purpose

The OEE is one of our primary critical success factors. This number needed to improve.

Research Conducted

- Daily Fiber Production Reports. (Attachment: 1- Daily Fiber Production Report Examples)

- Daily Reports and Monthly OEE Reports illustrated the severity of the situation.



A-Shift OEE downward trend indicates negative production results.

- A-Shift OEE Awareness Meetings were used to involve team members in brainstorming for improvement ideas. Their input gave Senior Area Operators ideas that they could use to improve their results. (Attachment 2: "A" Shift OEE Awareness Meeting)
- The value per Shift for 1% improvement or decline in OEE is estimated to be valued at $125,000 per year.

Hypothesis

If the A-Shift Senior Area Operators could present ideas for OEE improvement that worked or could work, then each of them could try the ideas on their individual lines. We would prove this by the results demonstrated on our daily production report.

Procedure Lists

Materials List

1. PowerPoint presentations

Procedures and Materials

1. Conduct Team meetings with key operators and use Department Technical Trainer for guidance and facilitation
2. Solicit ideas for improvement, try everything - No Idea is a Bad Idea
3. Disseminate ideas to all line operators for evaluation on each line
4. Conduct follow up meeting to report on success rate of each idea
5. Incorporate successful ideas on all lines
6. Track results and publish charts to each line weekly

Results

2009 A-SHIFT IMPROVEMENT SUMMARY

Exceeded 2009 goal.

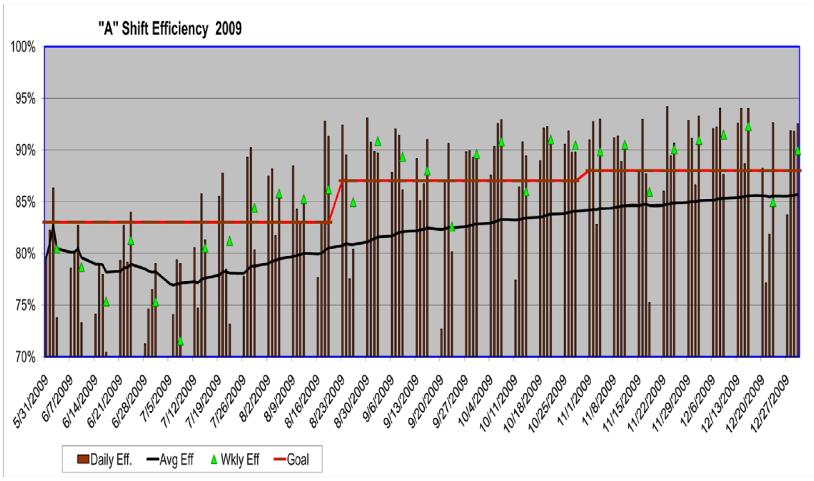
Achieved a positive variance of 400,415 kilometers bundled

2009 Improvement Value = $136,141

REDUCTION IN DOWN TIME

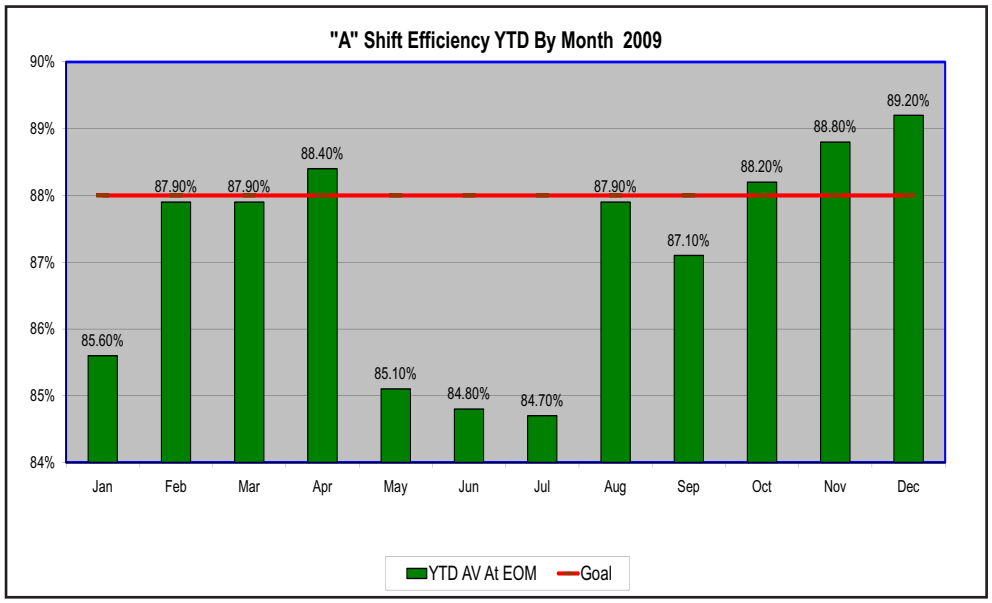
Operator Error and Improper Machine Setup caused downtime that negatively impacted OEE. A goal of 10% reduction over the previous year's results had been set for the A-Shift Technical Specialists. The Technical Specialists delivered a 42% reduction in operator error downtime and a 63% reduction in Improper Machine Setup downtime.

A-SHIFT EFFICIENCY IMPROVED

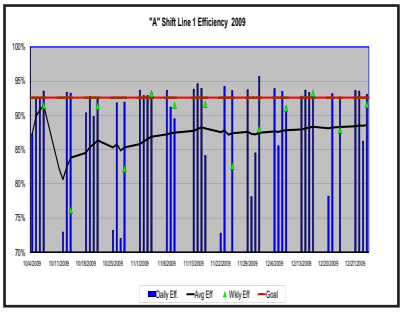


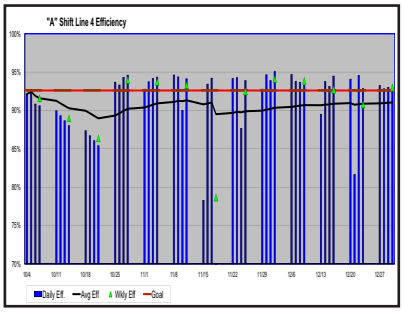
A-Shift Daily Results were graphed between May and December 2009.

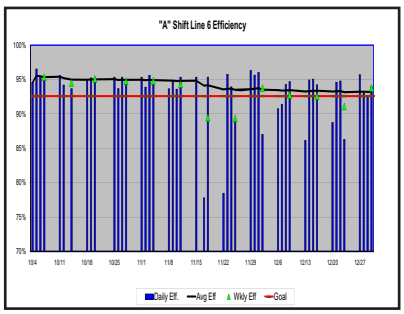
THE PROJECT IMPROVEMENT IMPACTED ANNUAL PRODUCTION RESULTS

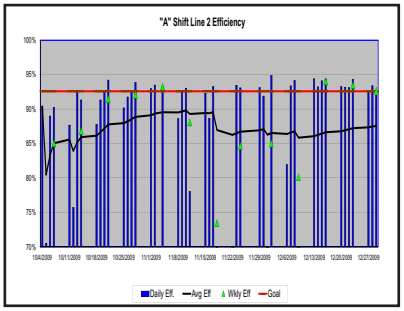


A-Shift Productions Results Show Significant Improvements had taken place.

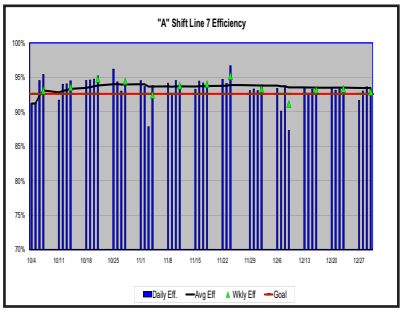


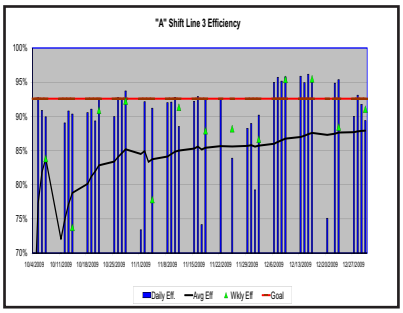


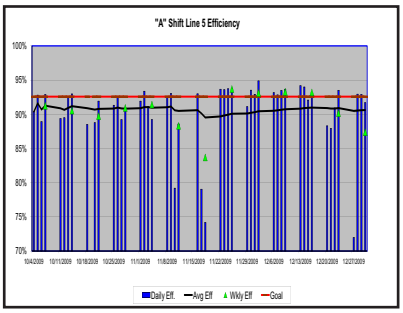


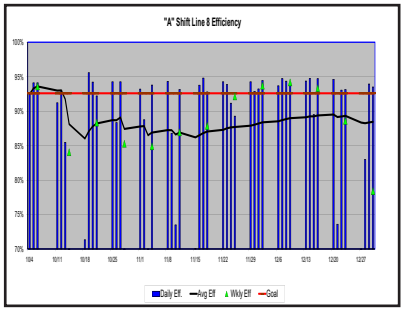


A-Shift results demonstrate how empowering Senior Area Operators to create, maintain, and sustain operator efficiency delivers improved results.









Individual line graphs were posted weekly.

Conclusion

Our data indicates that using a systematic problem solving approach that involves every person on the shift produces desired and repeatable results.

We used elements of Kepner-Tregoe problem solving and decision making methods and adapted those methods to our situation. One of the elements included brainstorming for ideas by senior area operators. Ideas were separated into wants versus needs categories. Then operators prioritized their needs. Then the operators would decide which of the needs were the most feasible. We experienced several false starts. Operators found that not all of their ideas worked equally well on all of the fiber production lines. Each leader was permitted to adapt ideas and techniques to their individual lines. Leaders were exposed to motivational tactics for reinforcing their improvement ideas to each line worker.

Operational Equipment Efficiency (OEE) and quality improved.

Improvement Suggestions

Improvement Suggestions

1. Start sooner.
2. Involve Senior Area Operators in more detail for the improvement process.
3. Identify outside support early in the assessment stage of improvements.
4. Share data with line workers earlier in the process.
5. Post graphs of production results.

Continuous Improvement Measures

1. Practice ways to demonstrate caring for every member of the team.
2. Give people responsibility for their results.
3. Increase the flow of data and graphic representations of the data.
4. Recognize positive and negative results.
5. Reinforce the positive results.

Acknowledgments

1. Gail Perkes, Fiber Department Technical Trainer, for facilitating Awareness Meetings and mentoring the entire A-Shift Team.

2. Raudel Diaz, A-Shift Technical Specialist, for his support and technical advice.

3. Lisa Thompson A-Shift Technical Specialist, for her support and technical advice.

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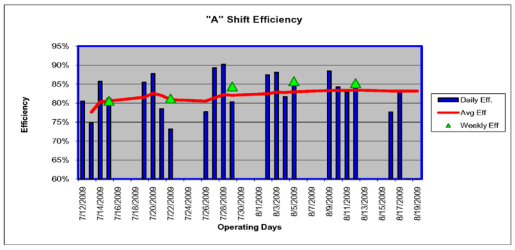
Attachments

Attachment 1: Daily Fiber Production Report Examples

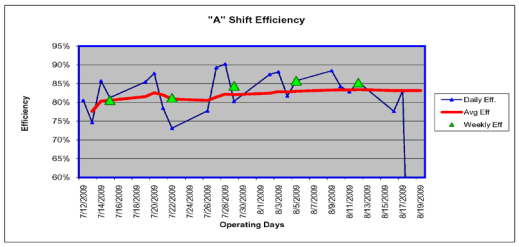
"A' SHIFT EFFICIENCY

	Daily Eff.	Avg Eff	Weekly Eff
12-Jul	80.55%		
13-Jul	74.71%	77.63%	
14-Jul	85.73%	80.33%	
15-Jul	81.27%	80.57%	80.57%
19-Jul	85.48%	81.55%	
20-Jul	87.74%	82.58%	
21-Jul	78.48%	81.99%	
22-Jul	73.14%	80.89%	81.21%
26-Jul	77.74%	80.54%	
27-Jul	89.28%	81.41%	
28-Jul	90.23%	82.21%	
29-Jul	80.32%	82.06%	84.39%
2-Aug	87.46%	82.47%	
3-Aug	88.15%	82.88%	
4-Aug	81.71%	82.80%	
5-Aug	85.79%	82.99%	85.78%
9-Aug	88.44%	83.31%	
10-Aug	84.28%	83.36%	
11-Aug	82.87%	83.34%	
12-Aug	85.44%	83.44%	85.26%

Daily Data was available. When data was made into simple bar and line graphs team leaders and line workers took notice of their progress.



Daily and Weekly Bar Graph



Daily and Weekly Line Graph

With the information provided by the graphs, Line Leaders and their Teams made adjustments. Teams improved their results by changing their production behavior and innovating.

Attachment 2: A-Shift OEE Awareness Meeting
A-SHIFT OEE AWARENESS MEETING 8-5-09

Things we could do differently to improve our OEE…

Line 1:
- Get extra wheels on the line to help prevent backup when there are issues with the autowrappers
- Get extra wrap holders to decrease the wrap change time
- Visual reference for inspection to quickly identify good / bad bundles
- Better communication as a team
- Ensure rejects are logged
- Be an example to all employees
- Fix as many bundles as possible
- Use the transfer totes
- Fix the haspel guides (horizontal guides stick – A Winder)

Line 2:
- Better teamwork efforts
- Better communication
- Fix as many bundles as possible
- Log the hourly count

Line 3:
- Keep track of the hourly count to create awareness

Line 4:
- More inspection of the bundles
- Tilt wheels to eliminate waste
- G winder air pressure adjustment on the venturi to eliminate twisted fiber

Line 5:
- Work more as a team
- Tilt wheels
- Fix the twisting on the wheel by moving the tail back to the next corner fork
- Folllow people out on wheel changes (creates continuous flow for wheel changes)
- Fix as many bundles as possible
- Inspect the wheel before it gets cut
- Better communication
- Use totes to transfer bundles

Line 6:
- Perform timely wheel changes
- Fix as many bundles as possible

Line 7:
- Fix as many bundles as possible
- Faster wheel changes
- Trip the accumulators

Line 8:
- Tilt the wheels
- Avoid twisted fiber in the venturi

Things we are currently doing to improve our OEE

Line 1:

- Tripping accumulator to gain shorter tails
- On time wheel changes
- Winder to wrapper travel time

Line 2:

- Inspecting bundles before cutting
- Three man rotation during breaks (one at the cutter, one at each cutting table)
- Asking Winding operators for suggestions and feedback

Line 3:

- Faster wheel changes through coaching
- Tilting wheel for shorter tails
- Fixing more bundles

Line 4:

- Using the K1 manual wrap change on the autowrapper. Two operators can change the wrap in half a wheel
- Inspecting for proper wrapping on the wrapper machine instead of moving it to the cutting table to inspect

Line 5:

- Good communication
- Inspecting bundles before the final cut is made
- Being a motivator

Line 6:

- Three man rotation during breaks (one at the cutter, one at each cutting table)
- Make all boxes for shift by 6:30

Line 7:

- Focusing on teamwork and communication
- Working with maintenance to eliminate issues

Line 8:

- Tripping venturis
- Inspecting bundles before wrapping them
- Fixing as many bundles as possible
- Keeping track of the hourly count

CONTINUOUS IMPROVEMENT

A Leadership Process

Lee Bradbury

B-Shift Production Supervisor

Work Assignment
Supervise the production of dialysis filter fiber bundles.

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"You will be a much better leader if your people feel like they want to work and not have to work. This comes from listening, not telling people what to do."

Lee Bradbury
B-Shift Production Supervisor

Lee began working for Brett Barton at Fresenius in 2000 as a Fiber Supervisor on B-Shift. He is happy to say that he is still a Supervisor on B-Shift and working for Brett Barton.

ABSTRACT:

You have to get your people to want to work not have to work. I started my succession plan when I started working as a Supervisor. My succession plan strategy is my sustaining improvement tactic. I am training people to be ready to take my place. When my numbers are off or are not what I think they should be, I'll offer an incentive. Doing random things will cause people to think differently. Shift members will respond in most cases. I must continually be creative enough to get my people what they need to do an even better job.

TABLE OF CONTENTS:

Introduction

You have to get your people to want to work not have to work. That alone covers everything you need to know. Avoid saying, "people are the most important part of my job" unless you are willing to act like it. The B-Shift People are important. Our numbers prove it.

Statement of Purpose

I started my succession plan when I started working as a Supervisor. The B-Shift comprises one-fourth of the Fiber Department in Ogden, Utah. I have trained half of the Technical Specialists (TS) we have in Ogden. They all started on my shift. My succession plan strategy is my sustaining improvement tactic. I am training people to be ready to take my place.

Research Conducted

It is all about this; I get people to sustain improvement by getting my team to tell me what needs to be done. I do this by asking questions. Through the questions I ask, they come up with ideas on how to do what must happen and they are more likely to do a better job if they are involved. That is what makes them want to work versus have to work. They become the contributors to solving work problems. Doesn't that make sense?

Yet, there are far too many leaders who simply think that all they have to do is to tell people to get something done. Then they blame their people for not doing a good job. Whose fault is that?

There are a hundred ways to get to the top. I have my ways and I am not going to say that any one is better or worse than mine. If one way works for someone more power to them – their numbers will determine if their way is working. If they are not getting their numbers, they will have to change something that they are doing.

When my numbers are off or are not what I think they should be, I'll offer an incentive like a dinner for each person on the line that reaches or exceeds their goals. Or, I'll do something that will shake things up. I never do the same thing twice. Because, then it becomes expected.

Hypothesis

Doing random things will cause people to think differently. Shift members will respond in most cases. I believe group meetings will not impact production and that I can communicate more clearly if I meet one-on-one and adjust my messages to each team member.

Procedure Lists

Materials

1. People
2. Machines
3. Maintenance

Procedure

1. Know my job

   Understand my role and responsibilities. I work to get the best out of each person who works here. With whatever they have, I make them the best they can be. That has always been and always will be my job!

2. Understand the rules

   Safety rules, production rules and FDA guidelines. There are black rules and grey rules. The black rules are like safety rules and quality rules. You must adhere to them. The grey rules cover every other rule there is. Those can be used as tools.

3. Listen

   Become willing to be quiet and hear what shift members have to say.

4. Increase the desire to want to work

   Forcing people to do their work assignment will not produce long term, sustainable results.

5. Increase respect for individual team members

   The thing you have to make sure of is when a person makes a mistake they learn from that mistake and that they improve from it. If you punish them for a mistake, that sets them back because they will not try again.

   This is where supervisors mess up. When people make mistakes, too many supervisors are too anxious to use traditional discipline tactics. The result is the person who made the mistake is belittled. That is not the purpose of a corrective action.

   When someone makes a mistake, I usually find out what happened. The person being questioned is generally feeling nervous and frightened of the consequences. I'll ask them what they learned from their mistake. Then I compliment them by telling them that they are now a better person and will not make the same mistake again. I let them know that they have become a better person to me.

   They leave the meeting feeling good instead of bad. I have found that those individuals work hard to do better and do more.

6. Demonstrate caring

Let people know you have their best interest in mind. Avoid thinking that you are better than those you work with simply because you are the boss. I warn my trainees that their teams are going to try to use them. So, just listen to them, do not make a decision for anything other than easy questions. After you listened, come to me. We will discuss it and we will decide what we should do. Then the TS can go back with their answer.

7. Discipline when necessary

If ever I have to discipline someone, the individual being disciplined knows it was his or her behavior that caused the problem. Absenteeism is a good example; a person has missed too much work. I talk to the person who has excessive absenteeism long before their missing work has become a problem.

They know that when they are brought in for not being at their job, it was their behavior and not mine that causes disciplinary action or their termination.

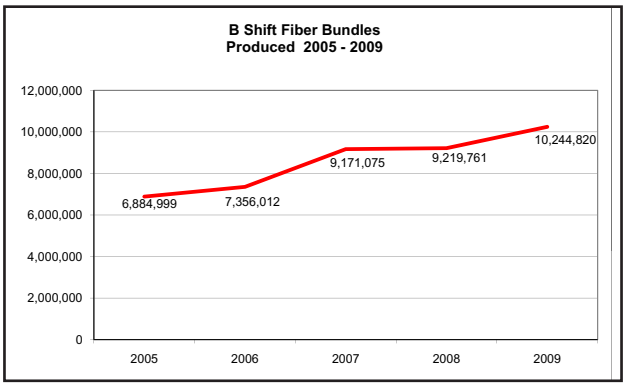
If a person makes too many mistakes, repeatedly I will work with him or her to find a place where they can succeed. Then, if they continue making mistakes, I will move them until I cannot move them anymore. When they are called in to meet with me, that person will usually say something like this, “I know – I am not cut out for this kind of work – thank you – I need to go.”

2009 B-SHIFT IMPROVEMENT SUMMARY

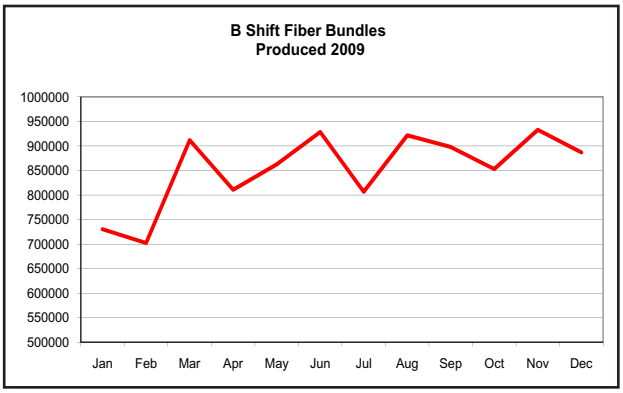
Exceeded 2009 goal.

Achieved a positive variance of 809,206 kilometers bundled

2009 Improvement Value = $275,130



Between 2005 and 2009 the B-Shift has consistently improved our production capability.



In 2009 our improvement continued, by year end, the B-Shift produced a record 10,244,820 bundles. It is the machinery that makes the fiber bundles. I have support people to help make that happen. I keep an eye on all that is going on because those machines must be kept running. Without the machines, I cannot make bundles.

Next are the tools; this is the most important part of making bundles. As in any profession, the professional has a set of highly developed tools that make his or her work happen. Without having the proper tools nothing of real value will result. My most important tools are my people. As with any other professional who takes care of his or her tools, I must take care of the people who work here. If they are not working well I must help them fine-tune themselves so that they can work better. If they are hurting, I must help remove the hurt.

If they do not know what to do, I must teach them. If they do not understand, I must teach even better. I have to know how to listen. Then I must be creative enough to get my people what they need to do an even better job.

Conclusion

The B-Shift Results stand on their own and speak for the dedication of each Technical Specialist and their team members. You have to get your people to want to work. I have done that. Getting your people to want to work covers everything you need to know. Avoid saying, "people are the most important part of my job" unless you are willing to act like it. Because they will see the difference between what you say and how you act.

Suggested Improvements

1. Continue what works.
2. Look for ways to improve.
3. Never yell at a person in front of another worker.

Acknowledgments

The Team Members of the Eight Lines of the Ogden Plant's B-Shift achieved our successes.

LINE 1	LINE 3	LINE 5	LINE 7
Rafael Herriquez	ANGEL HURTADO, TS*	Mary Orton	Rosenda Rosalas
Irma Rangel	Glenda Aguilar	Steven Padilla	Dallon Wheatly
Luis Gallegos	Bart Roberts	Zac Sant	Nathan Page
Amanda LaRue	Carmen Carrillo	Keith Jensen	Victor Cuevas
Aleisha Maxwell	Edger Gonzalez	Felicia Toth	Charles Kraus
		RogerQuintero	
LINE 2	LINE 4	LINE 6	LINE 8
Candace Davis	CATEY MARTINEZ, TS*	Mindi Jones	Derek Nasfell
Kimber Raitt	Ashley Compton	Loretta Byrd	Kristen Little
Erica Stevens	Angelica Mendoza	Luis Vallejo	Consuelo Robles
Abbi Call	Fred Toca	Noel Sierra	Lorraine Espinoza
	Teena Owens		Antonio Ortiz
			Kiel Whitney

*Capitalization Indicates Technical Specialist

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4. Hill, N., *Think and Grow Rich*, Tarcer, 2005.

THE GENESIS OF A HIGH PERFORMANCE TEAM
A Hands On Process of Engagement, Involvement, Teaching, Accountability, Competition, and Fun.

Jason Hardy

C-Shift Production Supervisor

Work Assignment:
Assure all fiber production lines operate within specifications.
Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"It's amazing what gets accomplished if you don't care who gets the credit."

Jason Hardy

C-Shift Production Supervisor

Fifteen years ago Jason started at Fresenius in 1995 in solutions pack-out. Two years later he started working in fibers. He was promoted to Production Specialist in 2000. In 2001 he became a Technical Specialist and in 2005 he earned his present position as Shift Supervisor.

ABSTRACT:

In June 2009, The C-Shift production was off target by 400,000 kilometers. My past experiences and observations indicate that you get more with team members when they are treated with respect and dignity. I began taking proactive actions with Senior Area Operators and Technical Specialists about what we can do to improve their lines' numbers. Each group became more active in solution finding. By year-end C-Shift production was 863,318 kilometers over target.

TABLE OF CONTENTS:

Introduction

In June 2009, the C-Shift production was off target by 400,000 kilometers. By year-end C-Shift production was 863,318 kilometers over target.

Statement of Purpose

End the 2009 Production Year positive!

Research Conducted

My past experiences and observations indicate that you get more with team members when they are treated with respect and dignity than when they are treated in a demeaning, forceful manner.

I read numerous books on management for ideas that supported my leadership philosophy and practices.

Hypothesis

If I treat team members as I would want to be treated then I would expect them to work as I would work.

Procedure Lists

Materials List

1. Reference books
2. Personal Production Graphs

Procedures

1. Continue Monthly Shift Meetings
2. Move self from my office
3. Work on the line helping production workers
4. Participate along side of those who needed teaching
5. Provide hands on skills training during interventions
6. Activating Technical Specialists (TS's)
7. Establish an Open Office Policy
8. Focus on Instilling Trust

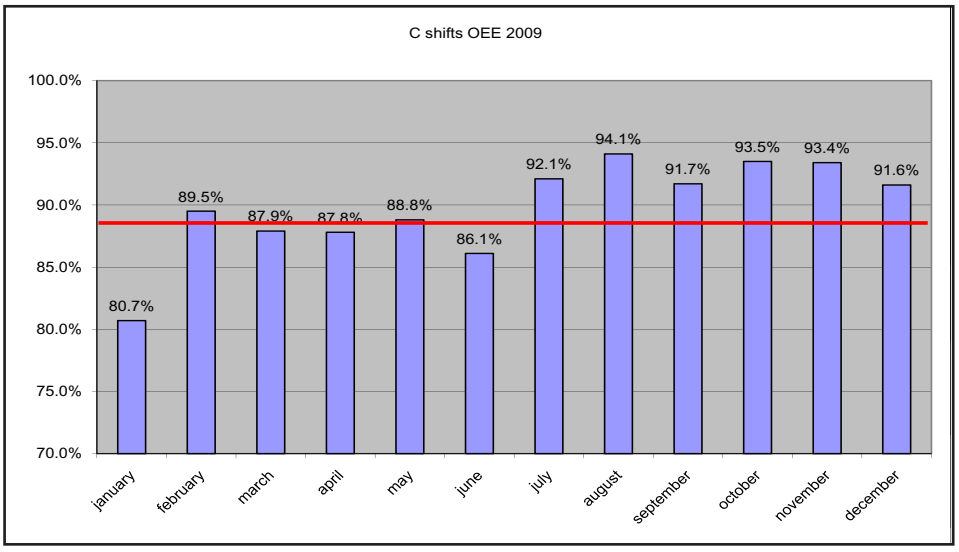
Results

2009 C-SHIFT IMPROVEMENT SUMMARY

Exceeded 2009 goal.

Achieved a positive variance of 863,318 kilometers bundled

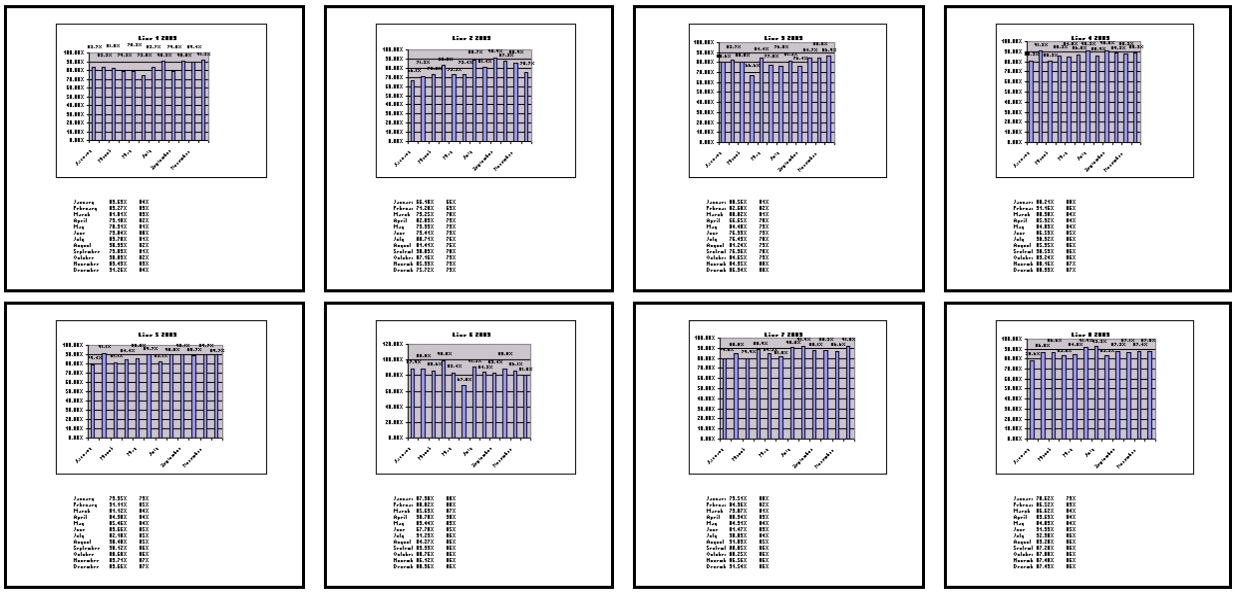
2009 Improvement Value = $293,528



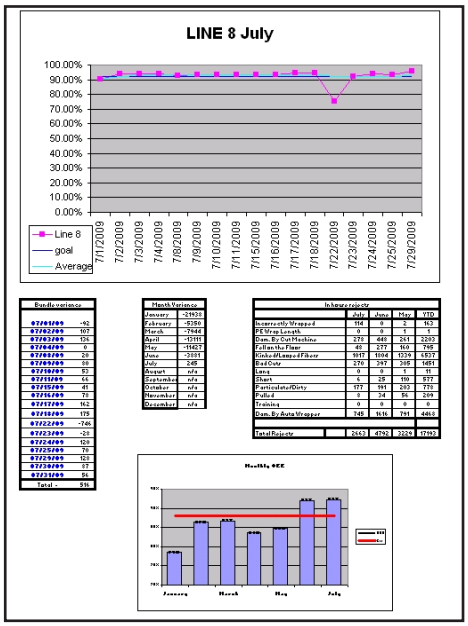
During June 2009 when production numbers were off target, I began taking proactive actions. I began talking to the Senior Area Operators and Technical Specialists about what we can do to improve their lines' numbers. I required each group to become more active and available within their line's operations. I established an open office policy. Team members felt welcomed and more comfortable and opened-up to discuss what they thought would improve operations. Improvement accelerated as everyone became more involved with their team and line issues.

INCREASED FEEDBACK

Increased feedback to each line on a daily and monthly basis created an awareness of our monthly results.



Each line has metrics that indicate their monthly contribution.



Daily contributions for each month showed how each day's production supported their monthly contributions.

During the change process feedback was increased. Daily scores were maintained and improvement was praised. Problems were analyzed and support was provided. Monthly summaries were circulated among the line. The data publication enabled each team member to know exactly how their performance was impacting overall results. (Attachment 1: Line 8 July)

Conclusion

When faced with our challenge each line worker personally took our goals seriously. They stepped up and made the challenge of improving a personal effort. As Senior Area Operators and their teams began improving they began talking to other line workers. During the last quarter of 2009 competition grew between the lines. This friendly competition boosted morale and production as workers introduced enjoyment into their daily work. Soon the night shifts were joining in the competitive situation of who can out produce who. C-Shift demonstrated and then presented evidence on the relationship that exists between happy employees and production. The happier the employee is the more productive he or she is willing to be.

Improvement Suggestions

Improvement Suggestions

1. Delivering feedback to the lines more frequently.
2. Finding ways to recognize each contributor.

Sustaining Measures

1. Increase feedback.
2. Expand recognition.
3. Maintaining positive relationships.
4. Vary reactions to positive improvements.
5. Create new ways to say Good Job.
6. Attack situations rather than attacking the workers.

Acknowledgments

For their efforts in making our C-Shift a success I wish to acknowledge the following for their efforts, creativity, and dedication to our customers:

Adrian Estrada	Ricardo Leon
Brett Barton	Andy Esqueda
Jesse Johns	Brian Carter
Bruce Mayhew	Maribel Maldonado
Sue Chatlin	Eugene Linsay
Erica Sandberg	Chad Jenkes
Norman Vizina	Luis Robles
Dulce Cuaron	Taesandra Miles
Claudia Stimpson	Antonio Solrzano
Jared Fifield	Andrew Melo
Brad Peters	Doug Montgomery
Cami Barrow	Debbie carroll
Rachel Donnelly	Kimberly Martinez
Michelle Benette	James Daines
Shearon Price	Sara Herandez
Yolanda Molina	Joshua Jablonski
J Fillmore	Jaime Arambula
Aaron Egli	Jorden Kahlhamer
Brian Tolley	John Ekstrom

Each of these individuals contributed in their unique way to cause our collective success and prepared our shift for the future.

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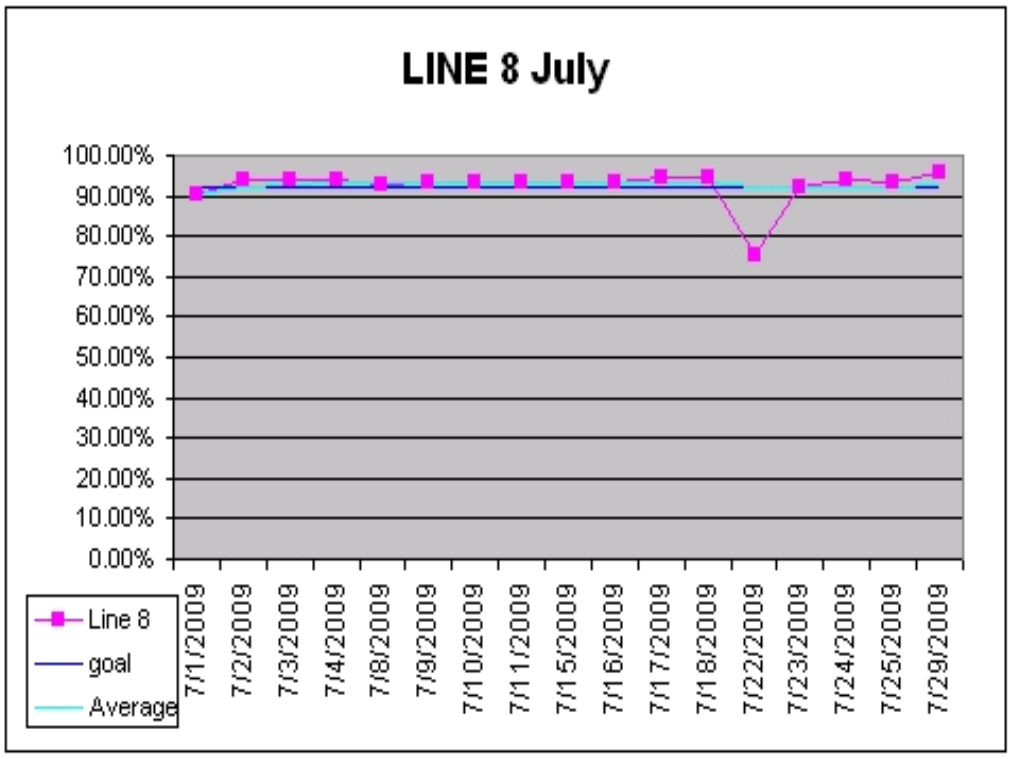
Attachments

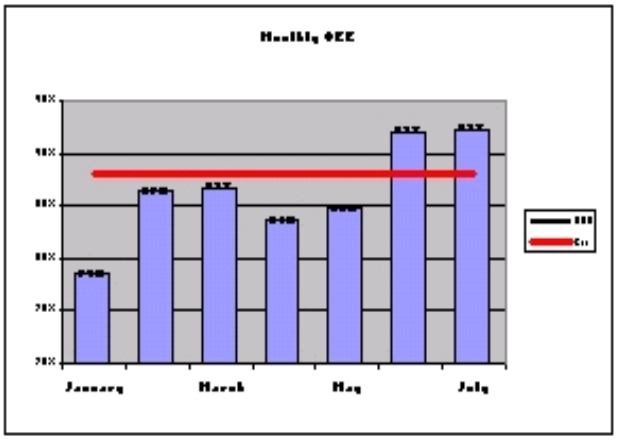
1. Attachment 1: Line 8 July Report



Bundle variance	
07/01/09	-92
07/02/09	107
07/03/09	136
07/04/09	0
07/08/09	20
07/09/09	80
07/10/09	53
07/11/09	66
07/15/09	41
07/16/09	78
07/17/09	162
07/18/09	175
07/22/09	-746
07/23/09	-28
07/24/09	120
07/25/09	70
07/29/09	128
07/30/09	87
07/31/09	56
Total -	516

Month Variance	
January	-21938
February	-5350
March	-7944
April	-13111
May	-11427
June	-3881
July	245
August	n/a
September	n/a
October	n/a
November	n/a
December	n/a

In house rejects					
		July	June	May	YTD
Incorrectly Wrapped		114	0	2	163
PE Wrap Length		0	0	1	1
Dam. By Cut Machine		278	448	261	2203
Fell on the Floor		48	277	160	795
Kinked/Looped Fibers		1017	1804	1339	6537
Bad Cuts		270	397	305	1451
Long		0	0	1	11
Short		6	25	110	577
Particulate/Dirty		177	191	203	778
Pulled		8	34	56	209
Training		0	0	0	0
Dam. By Auto Wrapper		745	1616	791	4468
Total Rejects		2663	4792	3229	17193



RAISING WILLINGNESS AND ABILITY TO DO A JOB

Rick Connell

D-Shift Production Supervisor

Work Assignment:
Supervise and Manage D Shift

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"Rule number one: STAY CALM no matter what happens. If you over react it only makes things worse."

Richard Connell

D-Shift Production Supervisor

Rick began working at Fresenius in 2002 as a Winding Operator. Within six years he was promoted to Shift Supervisor. During that period of time Rick gained experiences as a Machine Operator, a part-time then a full-time Compounding Technician, and a Shift Technical Specialist. In 2008 Rick became the D-Shift Fiber Supervisor.

ABSTRACT:

You cannot ask someone to do something that you are not willing to do yourself. Our work is important and the D-Shift will excel as long as the leaders have the ability to demonstrate that fact. In February 2009 D-Shift production variance was –272,289 Km and the OEE was 86.2%. In June 2009 improvement was starting, D-Shift production was –173,011 Km and the OEE was 87.6%. In December 2009 D-Shift production was +905,837 Km and the OEE was 90.1%. Our procedures centered on expecting nothing but the best from the shift supervisor and each team member at all times.

TABLE OF CONTENTS:

Introduction

How can I make the D-Shift employees more willing to excel at doing their job? All I have to do is first be willing to work with my people. If I am willing with them, they will become more willing to step up and work harder. You cannot ask someone to do something that you are not willing to do yourself.

Statement of Purpose

Our work is important, very important and the D-Shift will excel as long as the leaders have the ability to demonstrate that fact.

In February 2009 D-Shift production variance was –272,289 Km and the OEE was 86.2%. In June 2009 improvement was starting, D-Shift production was –173,011 Km and the OEE was 87.6%. In December 2009 D-Shift production was +905,837 Km and the OEE was 90.1%.

Research Conducted

From personal observation of how work was being completed and the production reports provided a clear picture that we needed to implement improvement.

Hypothesis

If we could get more experiences, then improvement would follow.

Procedure Lists

Materials

1. Fiber Production Reports, January-December 2009
2. Production Line Video System
3. Auto Cutter Improvement
4. Auto Wrapper Improvement
5. Crash Containment System

Procedure

1. Bruce Mayhew's Pit Stop Team created Best Practice Procedures for Down Lines. (Down Line is the term used when a fiber production line stops producing acceptable product.)
2. Technical Specialists implemented Best Practice Procedures for Down Lines and the fiber process.
3. Instituted continuous hands on training for the line workers.
4. Shift supervisor assured procedure implementation and machine operation by getting onto the floor with the people who were doing the work.
5. Shift supervisor was available for any interruption of the work flow.
6. Created and maintained a relaxed professional environment for every team member.
7. Expected nothing but the best from the shift supervisor and each team member at all times.

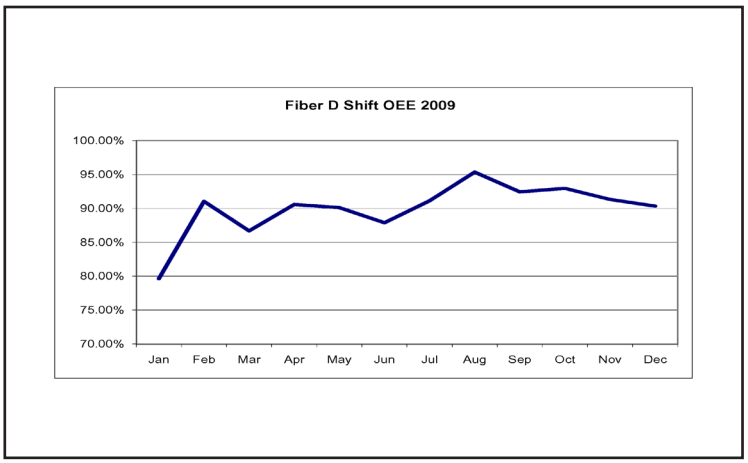
Results

2009 D-SHIFT IMPROVEMENT SUMMARY

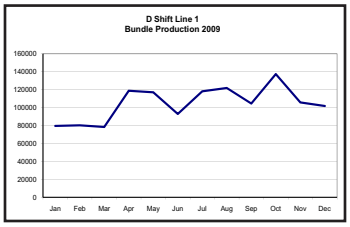
Exceeded 2009 goal.

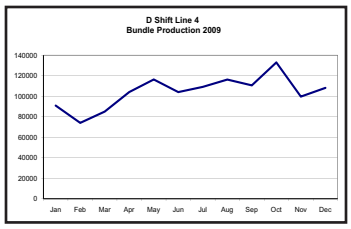
Achieved a positive variance of 400,415 kilometers bundled

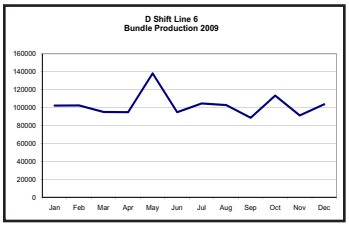
2009 Improvement Value = $136,141

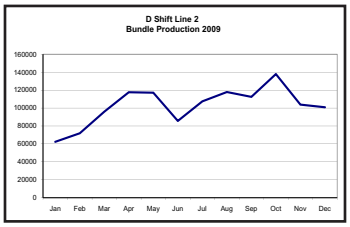


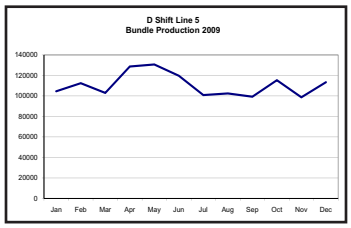
During down times we focused on creating positive results. As I supported and focused on the D-Shift people and their performance, Brett Barton focused on aligning other teams that impacted D-Shift.

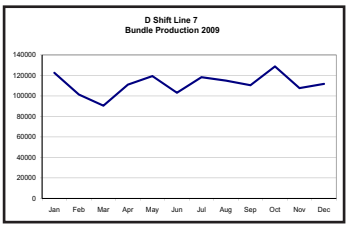


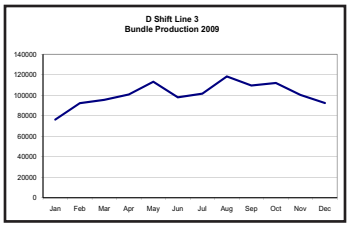




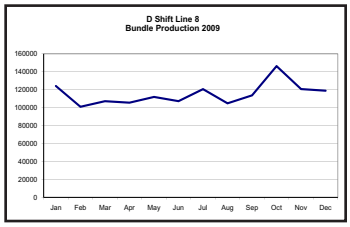








2009
D-Shift Results
by
Individual Line



While focusing on recovery from down lines, the Pit Stop Team supported our efforts to improve.

Conclusion

I cannot take any credit for what has taken place; these accomplishments have been created by my people. I am here for their support, as are the TS's who work on the D-Shift. I engineered a supportive environment that facilitated effective problem solving and collaborative solution finding. I would get on the production floor and work with the Technical Specialists.

I was able to locate resources and information the line workers needed to improve. Each line, in turn, reciprocated with their results and in creating a family atmosphere.

> "I continually go out and work on the lines with my operators as one of them (as an equal) to help improve their morale and get their point of view on things. And, become even more patient and adapt to individuals' needs and learning styles."
>
> D-Shift Technical Specialist, Stefanie Simmons

> "I'm continuously striving to make Fresenius a better more efficient work place. I feel that my influence (coupled with Stef, Joe and Jacey) has pushed D-Shift to always move forward and continuously improve on our already outstanding processes. My goal for 2010 is consistently improve on my own practices and become a more efficient trainer."
>
> D-Shift Technical Specialist, Joshua Whitesides.

Improvement Suggestions

Improvement Suggestions:

1. Get out of your office and onto the production floor.
2. Identify specific lessons learned.
3. Promote the opportunities for advancement through involvement of other team members.
4. Increase team member recognition.
5. Find more ways to deliver more positive feedback.
6. Find creative ways to promote morale.
7. Institute individual recognitions.

Expanding Measures

1. Increase team member recognition.
   Immediately recognize people who are doing things right.
   Find people who are making an extra effort.
   Recognize people publicly at meetings and where others can see what is taking place.
2. Continue keeping my word with everyone who works for the D-Shift.
3. Seek new ways and tools to make line worker jobs easier and more effective for the individual.

Acknowledgments

Line Workers:

Brittany Gibson, Rachel Williams, Lizzette Maldonado, Brendon Bennett, Scott Sova, Joel Petranovich, Shane Shurtz, Chelsie Young, Shandi Jarus, Dan Larsen, Kimika Martin, Brian Smith, Brian Cower, David Montoya, Javier Valdivia, Tyler Marcus, Kelvin Mendez, Casey Barker, Amber Blaylock, Brandi Tucker, Lisa Duncan, Ian Hatch, John Holyfield, Guadalupe Ambriz, Timothy Thirkill, Allison Hull, Adrienne Herrera, Spencer Souvannasap, Skyler Branscomb, Cora Minneboo, Marcus Bray, Breana Johnson, and Antonya Begay.

The Down Line Team:

Leader; Bruce Mayhew, Technical Specialist II; John Ekstrom, Peter Gorman, Melissa Trujillo, and Joe Swift.

D-Shift Technical Specialists:

Stefanie Simmons, Joshua Whitesides, and Jacey Roby.

String Team Members:

Rachel Williams, David Montoya, Brian Cower, Tyler Marcus, Cora Minneboo, Timmy Thirkill, Kyle Dickey, and Antonya Begay.

Todd Harris for equipment innovations.

Gail Perkes for her training and support.

Brett Barton for his personal support and confidence in our D-Shift Team.

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CULTURAL TRANSFORMATION
Delivering Beyond Expectations

Greg Kunz

Rectification Supervisor / Process Engineer

and

Michael Hardman

Computer/ Electrical Engineering Tech III

Work Assignment:
Optimize the rectification process, reclaiming and purifying water and DMAC from the fiber production process.

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"When you have your freedom and you are accountable, your only limitation is yourself."
Greg Kunz and Mike Hardman

Greg Kunz

Rectification Supervisor/Fiber Process Engineer

Greg started working at Fresenius in May 2002 as a Fiber Process Engineer. In February 2006, he accepted the Rectification Supervisor position. Greg earned a Lean Leader certification in June 2009.

Michael Hardman

Computer / Electrical Engineering Tech III

Michael started working at Fresenius in 1997 as a Fiber Machine Operator. In 2001 he moved over to the Compound Formulation area within the Fiber department. Then in 2006 Michael accepted his current position in Rectification as an Engineering Technician.

ABSTRACT:

Due to the lack of waste system design information from piece-meal additions, the capacity of the waste system was not known. As the system was added upon, it has become an intensive manually operated system subject to constant attention by both the shift operator and the maintenance personnel. Operational efficiency was reduced. We needed system and process upgrades. The entire staff was pushed to their physical and mental limits. Morale was low. As a result of management support and resources 2008 – 2009 brought significant technological upgrades. In 2009 we made significant staff ,advances and have created a high performance Rectification Team.

TABLE OF CONTENTS:

Introduction

In 2009, eleven lean leader projects were successfully completed with their associated technological upgrades that resulted in $335,000 cost savings. Utilizing smart objectives with employee monitoring and staff additions enabled us to produce a high performance Rectification Team.

Due to lack of waste system design information from piece-meal additions, the capacity of the waste system was not known and upgrades could not be justified with numbers. From the recent startups and the operation of the new fiber lines 7 and 8, the maximum capacity of the waste system has been reached. This was not realized due to one fiber line being shutdown in 2008 for excess capacity.

This waste system is the only manually operated system in rectification with excessive downtime and maintenance activities that consume most of the R&M costs when compared to the other seven major rectification systems. Automation of the waste system would minimize downtime, improve efficiencies, and would have a direct result in improved production results.

When operator and or maintenance errors occur, the results are a backed-up waste system with drums being filled containing DMAC to be later reprocessed. The difficulty comes when the waste system is operating at capacity. To meet increased fiber line 9 and 10 capacities, the rectification waste system is being upgraded to avoid even more excessive drumming and disposal costs of waste drums.

Statement of Purpose

Reduce external DMAC deliveries by upgrading the entire waste management system. Increase DMAC in water production quality at the highest quality level through improvement in the rectification system.

Waste System Research Conducted

1. Improving rectification operational capacity is required to process and reclaim 916,676 lbs (116,330 gallons) of N, N-Dimethylacetamide (DMAC) from 2,204 drums in a storage facility that is currently full. At $0.96/lb, processing these drums containing DMAC would recover $880,009 in current DMAC drum inventory. The fiber lines continue to produce 55-gallon drums containing DMAC waste at a rate of 1,850 drums/year through the normal production routines of performing spin block rinses and filter changes to control bubble point. The processing of 1,850 drums/year from fiber production activities will result in a $277,500/year cost savings in DMAC recovery and avoidance of disposal costs. By not processing these drums, the cost to dispose would be $150/drum at a total disposal cost of $330,600 with no DMAC recovery to reprocess (a DMAC inventory loss of $880,009). The total loss to dispose of 2,204 drums would then be estimated at $1,210,609 plus $277,500/year to process the newly generated waste drums from the fiber production routines to control bubble point.

2. At the beginning of March 2008, we made efforts to obtain design information from the former subcontractor (APV Invensys) on the current waste system process units (i.e., Concentrator Evaporator #1 and #2, Flash Evaporators #1, #2, and #3, and the Wipe Film Evaporator). It was quickly realized that a complete overall engineering design or model of the current waste system had never been performed or evaluated. When APV Invensys performed a model analysis on the current waste system, the complexity of processing a PVP/DMAC/water mixture became apparent. The waste feed mixture becomes thixotropic as more water and DMAC is reclaimed from the waste process stream. This waste stream thixotropic fluid mixture is a pseudoplastic power-law fluid that does not have a constant shear stress to shear rate ratio (non-Newtonian fluid) that makes it difficult to process. The mixture viscosity can significantly change in relationship to small changes in the PVP content due to the molecular weight differences. For example, a 10-lb/hr change in steam flow can cause the mixture viscosity to change exponentially (power-law relationship). PVP has a weighted-average molecular weight of 1,100,000 g/mol compared to DMAC at 87 g/mol and water at 18 g/mol. Therefore, the waste process stream fluid chemistry requires the need for automated viscosity and steam control versus the current manual operations in order to efficiently process and separate the waste components and minimize operator errors and the associated R&M costs.

Hypothesis

2009 successes will come from a multi-pronged approach of combing lean six sigma projects with capacity and staff morale improvement.

Procedure Lists

Procedures

1. Understand why systems are not working
2. Address bottlenecks as they relate to capacity and quality
3. Align staff behavior with the demands of capacity and quality
4. Create results driven by resourcefulness and employee innovations
5. Discover better ways to automate existing equipment
6. Continually innovate while keeping seven systems at maximum capacity while increasing overall capacity
7. Turn out effective results-driven projects quickly

Results

Certified 2 New Lean leaders
Completed 4 successful Lean Projects
2009 savings = $335,000

FOUR LEAN SIX SIGMA VALUE ADDED PROJECTS

1. DMAC 1 & 2 side scrubber flow rate control upgraded preventing unnecessary DMAC production losses and better control over acetic acid levels in the production stream.

2. Integrated Drum Dryer operation control and feed systems to DCS allowing monitoring from the control room reducing downtime and maximizing performance of dryer systems.

3. Analytical UV analyzers installed in slow sampling side streams were replaced with production grade in-line UV analyzers. This greatly reduced the sampling delay while at the same time increased the accuracy of the readings. The upgrade also had the side benefit of saving 3+ gpm of water do to the fact that the sample stream of the older analyzers was not reclaimed.

4. Upgrading of the waste system is ongoing. These upgrades are designed to increase the efficiency of the waste system stages at the same time lowering the maintenance hours required which currently occupy the bulk of the operators time. So far, the Concentrator Evaporator #1 and Concentrator Evaporator #2 systems have been upgraded with new instrumental packages and structural elements.

OTHER SIGNIFICANT PROJECTS

1. Rectified water tank farm expansion significantly increased water reserves available to the fiber production process during extended rectification system interruption.

2. DMAC feed tank was installed between the multi-distillation systems and the DMAC production columns. This tank provides a buffer function for the DMAC columns and prevents unnecessary down time by allowing one system to be shutdown without having to shutdown the adjacent system.

3. Control room was moved to a central location of the compound allowing visual monitoring of equipment which was impossible from the old location. The newer control room also has natural lighting and reduced ambient noise levels leading to a reduction in environmental stress on the operators over a 12-hour shift.

4. The evaporators on the MVR #1, MVR #2, and MVR #3 systems where cleaned for the first time since installation. Cleaning of these columns was previously believed to be unnecessary. The cleaning of these systems produces a better heat transfer efficiency which in turn allows the electrical components of the system to run at a lower rate, saving approximately 30% of the corresponding energy usage while at the same time reducing mechanical stress on the systems. This increased efficiency has the added benefit of reserve capacity that can be brought online preventing any down time caused by partial system crashes.

5. Yokogawa ExaQuantum data historian had been online long enough to allow current system configurations to be compared with past configurations facilitating system control optimization through the use of historical process data.

6. ExaQuantum system allows production metrics to be continually monitored, which in turn promotes process performance ownership in the operators.

7. Updated and integrated WFI water recovery systems allowing the optimization of the used water recovered from the dialyzer process through our DMA absorbers.

8. Miscellaneous field equipment integration allowing monitoring and control to be preformed from the control room and tracked through the data historian.

9. Implemented work order system.

10. Implemented SMART Objectives for every employee.

11. Installed acid cleaning lines on six vapor recovery systems to improve condenser efficiencies.

Conclusion

Fiber production demands that Rectification operates at a higher efficiency. We have, in the Rectification Department found ways to work better together while upgrading and integrating existing systems. We have expanded our capacity while accounting for only 7.9% of total 2009 Fibers downtime. We intend to continually perform at a high standard. We cannot accept the status quo. Our group will continue to expand the high performance culture we helped create. We walk our talk!

Improvement Suggestions

Improvement Suggestions

1. Be prepared to manage production changes through effective prioritization
2. Increase design resources and enable more internal design time
3. Install SMART Objectives sooner
4. Get your people the tools they need to accomplish their goals faster
5. Communicate how individual performance makes the difference in our overall success

Sustaining Measures

1. Resources to complete enhancements as they become necessary
2. Have the right people with the right work ethic
3. Maintain staff relationships
4. Find ways to match rewards to performance
5. Increase efficiency through technological improvements and automation
6. Continuing to be part of the Fiber Team by sharing resources where they are necessary
7. Significantly reduce DMAC deliveries
8. Continue SMART Objectives
9. Communicate there is more to business than business goals. Take care of our people and they will rise to our goals
10. Allow each rectification team member to become better than they ever believed they could become. Because, when you have your freedom and you are accountable your only limitation is yourself

Acknowledgments

1. The entire Rectification Team for proving that success breeds success and for their ability to step-up, become accountable, and take initiative.

2. Jenny Paquette an exceptional performer for her accountability and skill at maintaining a solid clerical and report generating service that includes: editing Rectification Standard Operating Procedures, Critical Change Documents, Bubble Point Tracking, Validations, preparing PSF and PVP Silo Blend Designs for review, Purchase Order Generation, and Work Order Systems.

3. The Leaders and trainers for Lean Six Sigma for providing a structure that enables us to handle multiple projects and generate significant advances.

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ENGINEERING HIGH PERFORMANCE MAINTENANCE SOLUTIONS

Todd Harris

Fiber Compounding / Maintenance Superintendent / Process Engineer

Work Assignment:
Organize and improve maintenance functions, oversee fiber compounding, analyze production processes and develop and implement engineering improvement projects.

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"There is no magic pill or instant download for success. There is only: Vision, Focus, Determination, and Hard Work."

Todd Harris

Fiber Compounding, Maintenance Superintendent, Process Engineer

Todd began working at Fresenius in 1992 in the Solutions Department as a line production worker. After a short period of time, he accepted a Forklift Operator position in Receiving/ Distribution where he worked until 1995. In 1995, the Fiber Department in Ogden started up and he began working as one of the two original Compounding Formulation Technicians. In 2000, he looked for other ways to contribute to the Fiber Department's success and began working with the Fiber Validation Engineer as a Validation Technician. Todd then worked as a Validation Technician while finishing his Engineering degree. In 2003 Todd became the Validation Engineer. After a couple of years doing Validations, he was offered the opportunity to be a Fiber Process Engineer with the added responsibility of Compounding Supervisor. Then in 2007, he was given the additional responsibility of supporting the Fiber Maintenance group.

ABSTRACT:

Fresenius Fiber Division has 18,000 equipment locations and each location ties back to a specific part. Maintenance Technicians need a way to quickly locate parts, organize work orders, and capture historical work data. Maintenance Team members complain that parts could not be located quickly or at all. If time required for repairs and scheduled maintenance is reduced, machines would be repaired/maintained faster and down time would also be reduced. This would increase Overall Equipment Efficiency (OEE) and impact maintenance technician efficiency.

TABLE OF CONTENTS:

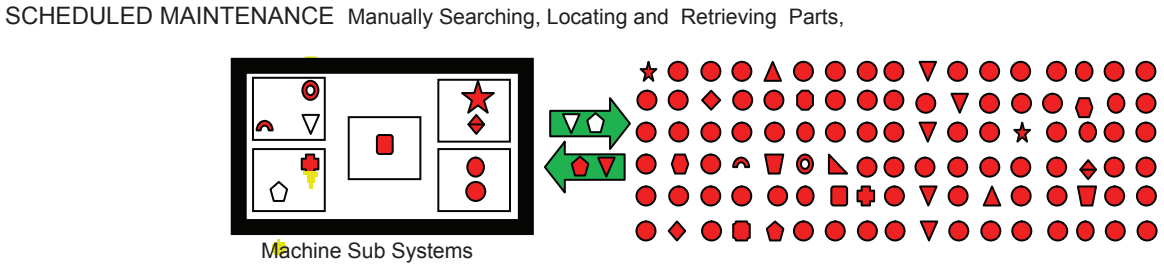
Introduction

Fresenius Fiber Division has 18,000 equipment locations and each location ties back to a specific part. When machine maintenance is needed because of a breakdown or scheduled maintenance, considerable time (1.5 hours) is often required to locate the correct part. Work order generation, work histories, and meaningful data are nonresistant. Preventative maintenance is taking place without sufficient organization of records.

Statement of Purpose

Maintenance Technicians need a way to quickly locate parts, organize work orders, and capture historical work data.

Research Conducted



Maintenance Team members complain that parts could not be located quickly or at all. The time for routine maintenance was extended causing line down time to increase. Observed issues are being missed.

Hypothesis

If time required for repairs and scheduled maintenance will be reduce, machines would be repaired/maintained faster and down time would be reduced. This would increase Overall Equipment Efficiency (OEE) and impact maintenance technician efficiency.

Materials and Procedures

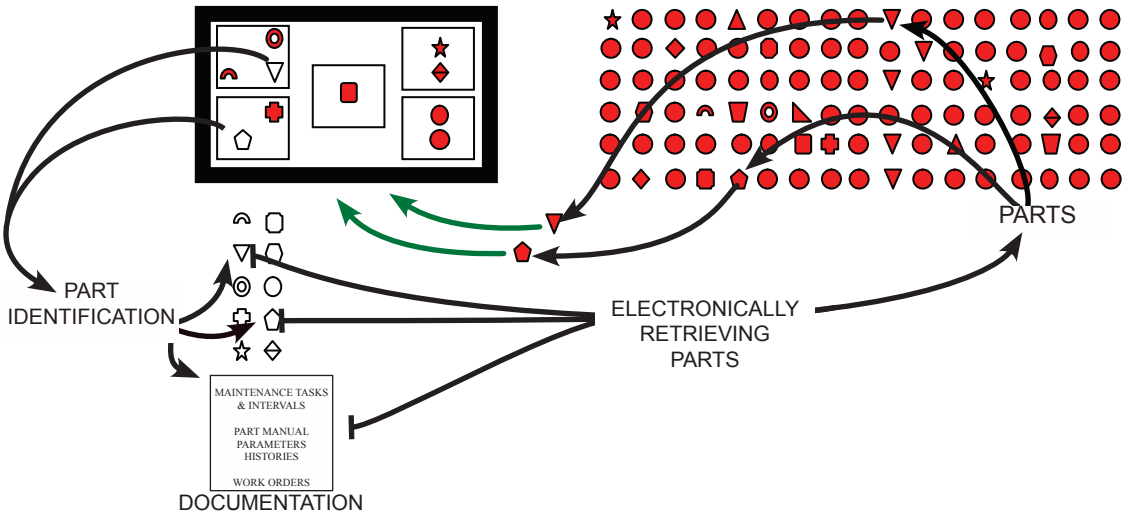
Materials

1. MP2 (Maintenance Management Software)
2. Machine Drawings
3. Part Schematic
4. Machine Solid Models

Procedures

1. Identify the Hierarchy of Machine Location.
2. Associate each spare parts to each machine location
3. Create attachments for each spare part location
    a. Part manual
    b. Device parameter files
4. Input every scheduled task
    a. Identify multiple locations
    b. Organize the maintenance schedule
    c. Organize scheduled tasks from which events generated work orders.

SCHEDULED MAINTENANCE Electronically Searching, Locating and Retrieving Parts



5. Identify holes in system e.g. parts we need but do not have.
6. Train Maintenance Technicians to find the part required for the appropriate equipment location .

Results

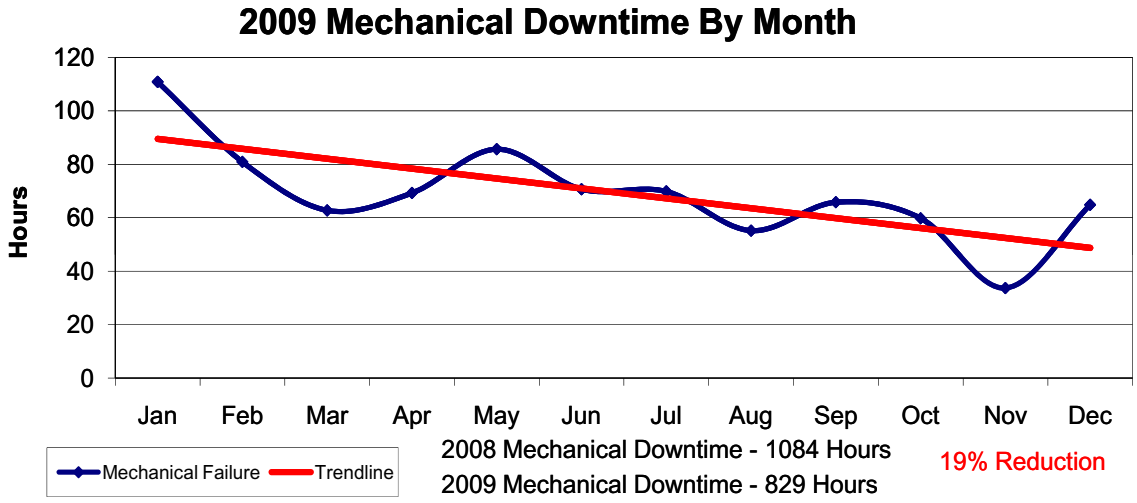
Results Summary

Organized 18,000 individual locations and 2000 different parts.
Created a retrieval and delivery process that works.
Realized a 19% Decrease in Mechanical Caused Downtime.

Created a foundation equipment location hierarchy by machine and associated parts

Maintenance Technicians and Spare Parts Associates are now able to find parts based on machine locations

Installed the capability to track histories, work orders, and parts replacements with higher accuracy. When specific parts are being replaced frequently the Maintenance Technicians now have more information regarding part failures and can then begin looking for the cause of the part or machine failures.



This project significantly reduced the incidents of mechanical caused downtime.

Conclusion

There is no magic out there; quick fixes are nonexistent. There is no simple 'click and download' solution for resolving the relationships between machine maintenance and part locations. Our present process evolved out of a critical need to do something different that would impact our entire operation for the good. The scope was immense and time intensive. It required a vision and a compelling drive to step beyond merely resolving a problem. All the locations needed to be input manually. Codes had to be generated to link parts to locations. Tasks and work orders for each location had to be developed. The result is a significant reduction in equipment related downtime through a system that is not dependent on one individual.

Improvement Suggestions

Improvement Suggestions

1. Less distractions for other demands.

2. Allow for increased focus time to complete the project.

3. Support Team (one engineer, one or two data entry clerks, two or three dedicated maintenance staff).

4. Increased time to complete the project.

5. Continue generating work orders.

Sustaining Measures

1. Move from reactive to predictive maintenance.

   When work order data is captured and accessible then we are able to use histories of parts to determine when parts need to be repaired and when we can plan for replacements before a machine fails.

2. Work orders become generated by location and manufacturers recommended intervals.

Acknowledgements

Gail Perkes for her ability and willingness to help track downtime data, generate reports and interpret our results.

Paul Taylor for his maintenance expertise and willingness to take up the slack while his staff was engaged in identifying locations and parts, clarifying definitions, correlating information, data entry and even discovering parts that we did not know we needed. They created this project's success.

Hayden Smith for his ability to learn the software that made this project possible For his tenacity and forbearance and his vision. Hayden has become the 'go-to' maintenance Technician when it comes to knowing how to locate parts and linking parts with documentation, histories and generating work orders.

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ESTABLISHING A HIGH PERFORMANCE QUALITY LABORATORY

Wade Paskett

Fiber Validation Engineer/Quality Control Supervisor

Work Assignment:
Fiber Validation, Fiber Process Preparation and Fiber Lab

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"You can't accomplish it if you can't dream it. Dream bigger, achieve more"

Wade Paskett

Fiber Validation Engineer/Quality Control Supervisor

In 1995 Wade started working at Fresenius as a Senior QC Fiber Lab Technician. In 1999 he became the Sterilization Validation Engineer. Then, in 2000 he became a Research Microbiologist and was transferred to Dialyzer R & D as a Dialyzer Research and Development Product Development Engineer. In 2006 Wade became the Fiber Validation Engineer. After two years he accepted the additional responsibility of Fiber Laboratory Supervisor. Presently, Wade Supervises the Fiber Lab, Fiber Validations, and Fiber Process Preps.

ABSTRACT:

Our laboratory is the primary quality monitoring element in fiber production. The fiber laboratory goes beyond testing and reporting, they make process decisions and changes based upon their findings. The effectiveness of the lab affects the amount of releasable product produced. What measurable impact can a fiber lab have on fiber production results? We found when measurable, definite goals are in place, and each team's progress is tracked, individual employees can be held accountable and become responsible to deliver our result of 99.82% first pass yield.

TABLE OF CONTENTS:

Introduction

How can we reduce the amount of fiber scrap?

The lab is the primary quality monitoring element in fiber production. The Fiber Laboratory goes beyond testing and reporting, they make process changes based upon their findings. The effectiveness the lab can affect the amount of releasable product produced. The three areas where the lab can have the most positive impact in fiber production are:

1. First Pass Yield
2. Ultra Filtration (UF) Failure Reduction
3. 100% Yield Weeks

Statement of Purpose

The lab is in a position to limit failures by quickly making adjustments in the manufacturing process, based upon the test results.

Our 2009 Fiber Lab Goals were to:

1. Increase First Pass Yield to 99.68% (Stretch Goal 99.7%)

2. Reduce UF Failures by 10% from the 2008 numbers (Stretch Goal 15%)
   2008 Failures = 94,850 lab caused failures
   2009 Failures = 85,365 lab caused failures (10% Goal)
   80,622 lab caused failures (15% Stretch Goal)

3. 100% Yield Weeks – Increase the number of weeks that no product was failed. 100% Yield means that everything made meets quality standards and is released.

Research Conducted

I was given the lab assignment in April 2008. Initial review of the lab production numbers indicated that errors were being made. Interviews with laboratory staff further supported my concerns.

Hypothesis

If the entire approach to lab accountability was increased, every shift member could collectively improve. Those improvements would translate into lab efficiency. I would prove this by setting specific measurable goals. The goals were tracked by publishing a Weekly Fiber Laboratory Report that showed overall goal progress and shift progress.

Procedure and Materials

Materials

1. Production Reports

Procedure

1. Review historical data
2. Establish reasonable starting points
3. Measure daily performance
4. Summarize daily performance weekly
5. Publish monthly Fiber Lab Reports
6. Post Fiber Lab Report
7. Discuss deficiencies, improvements, causes
8. Implement changes

Results

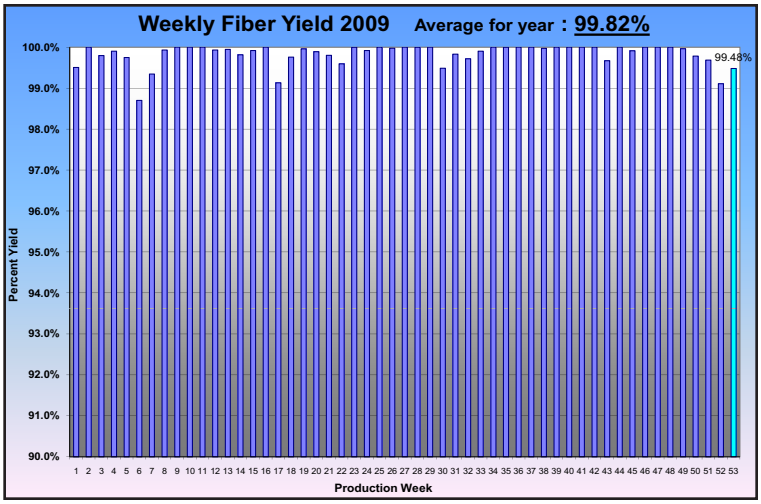
2009 Fiber Laboratory Improvement Summary

Surpassed 2009 goal

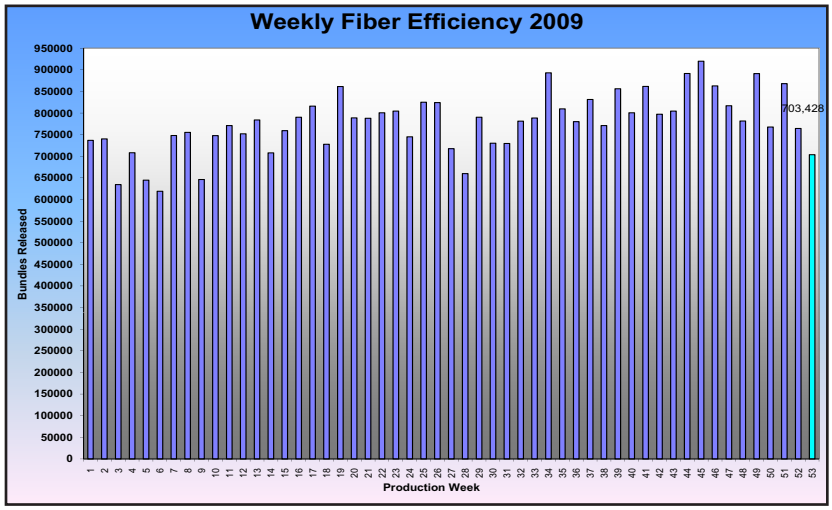
Achieved a positive first pass yield of 99.82%

2009 Improvement Value = $58,800 over 2009 Budget

FIRST PASS YIELD 99.82%



When measurable definite goals are in place and each team's progress is tracked; individual employees can be held accountable.



When the team members know that they will be rewarded, they will increase their personal investment in the outcome.

They have to know, up front, the conditions for their success.

You have to do what you say. The leaders must follow-up with his or her expectations. This means that when necessary some team members will need to be reprimanded, all team members will need to be praised. Supervisors must be willing to be open with both their expectations and the teams measurements, then act accordingly. If you do not practice what you preach, you will never get the results you are looking for.

When expectations are clear the Senior Technicians have the ability to push goals down to each individual. They have the most face-to-face contact with each team member. Senior Technicians are in the ideal position to recognize individuals, suggest rewards, and improve performance.

Conclusion

When clear expectations are set and people are held accountable, you have more success. The results of the expectations must be measured. The results must be reported to the people. Once a month reporting was not effective. Weekly reporting worked best. People should know what they are doing daily and make the adjustments to impact their weekly score.

Improvement Suggestions

Improvement Suggestions

1. Tracking individual progress toward goals may improve shift performance
2. Measure Fiber Process Preparation teams performance
3. Daily tracking might improve results

Sustaining Measures

1. Realize measurement alone will not improve performance or production
2. Improve the reward system by practicing Pay for Performance
3. Be consistent with delivering on what we say
4. Become better at building self-esteem within teams by recognizing positive performance
5. Experiment with praise
6. Communicate that measurements are not a personal attack but an indicator that more improvement is necessary

Acknowledgments

The Fiber Laboratory Team are group of exceptional workers who are constantly working to learn more and deliver the results they have achieved.

Niki Matthews	Rhiannon Rose
Lizeth Valdez	David Hill
Stephanie Fisher	Lisa Erickson
Jamie Wiltshire	Shanna Hazelton
Timmary Barnes	Megan Pingree
Lisa Pence	Niel Morton
Wayne Branch	Todd Cragun
Elizabeth Eddy	

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PIT STOP APPROACH TO REDUCING DOWNTIME

Bruce Mayhew

Technical II Supervisor

Work Assignment:
OEE Improvement and Down Time Reduction

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

January – December 2009

"We all have the ability to create our own future."

Bruce N Mayhew

Technical II Supervisor

Bruce worked in the Solution Fill Room on a part time basis on Saturdays and Sundays 1994 and was hired full time in the Devices Department 1995. He became a Winding Operator Fiber Department 1995 and in 1999 he earned a Production Specialist position. In 2001 he became a Technical Specialist and a Fiber Production Supervisor in 2004. Bruce has been in his Fiber Technical Supervisor since 2008.

ABSTRACT:

Pit Stop is the descriptive phrase for the time taken to get a stopped line back into full operation. In 2007 we began tracking Pit Stop task times. We broke each Pit Stop event into 24 separate Sub-Events. Each Sub-Event was assigned an achievable benchmark. In 2008 we identified and documented the corresponding best practice for each Pit Stop Sub-Event. Our 2009 numbers speak for themselves. Our approach to continuous improvement created the foundation for maintaining and sustaining a procedure for ongoing innovation.

TABLE OF CONTENTS:

Introduction

Pit Stop is the descriptive phrase for the time taken to get a stopped line back into full operation. A Pit Stop Crew is comprised of individuals who volunteer for a high stress and demanding work assignment. Each Crew is lead by a Technical Specialist II. The Pit Stop Crews play a critical role in line maintenance. In 2007 Pit Stop teams were formed. In 2008 a Technical Specialist II job description was created and provided a framework for leading teams, teaching best safe practices, and quality assurance. The result was the teams stabilized and the processes were standardized.

Statement of Purpose

We must create best practices for each task and reduce the time for each Pit Stop task.

Research Conducted

In 2007 we began tracking Pit Stop task times. We broke each Pit Stop event into 24 separate Sub-Events. Each Sub-Event was assigned an achievable benchmark. In 2008 we identified the corresponding best practice for each Pit Stop Sub-Event and documented each event. This information helped us understand the best practices, increased accountability, and achieved repeatability of each sub-event.

Hypothesis

If we could track each Pit Stop Crew's performance for each Sub-Event then each Crew would have instant feedback for every Sub-Event and we could improve and update our practices.

Procedure Lists

Materials / Tools

1. Lean Leader Tools and Tactics (Justin Pitt and Todd Saunders)
2. String Team
3. Technical Specialist II
4. Tracking Reports

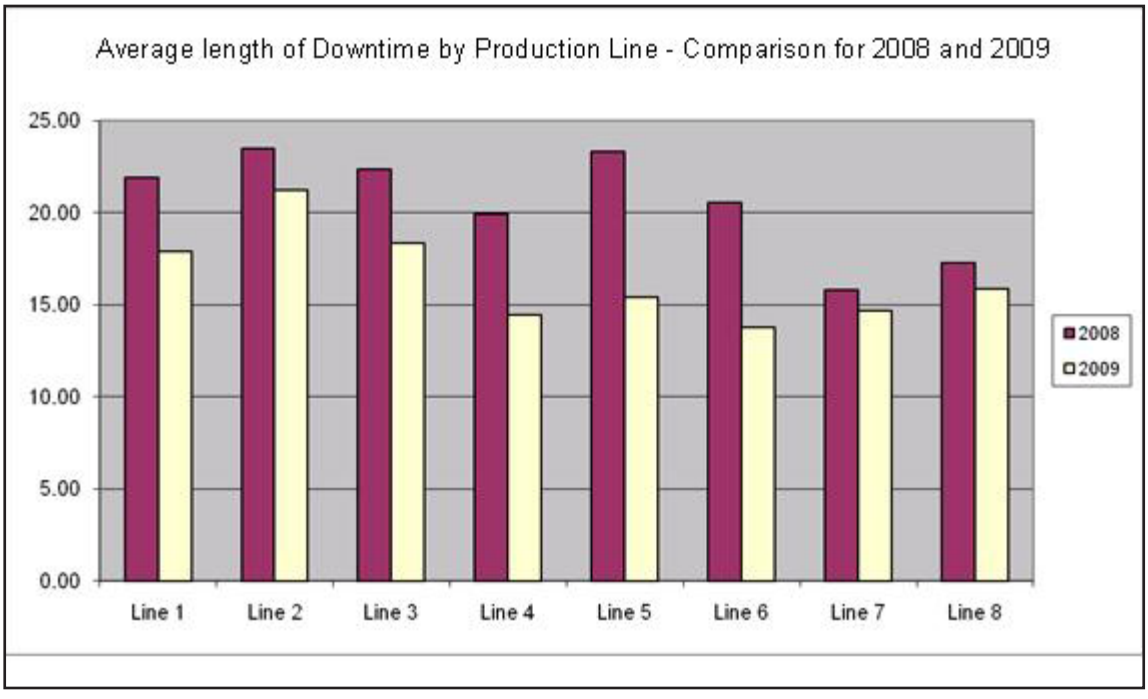
Procedure

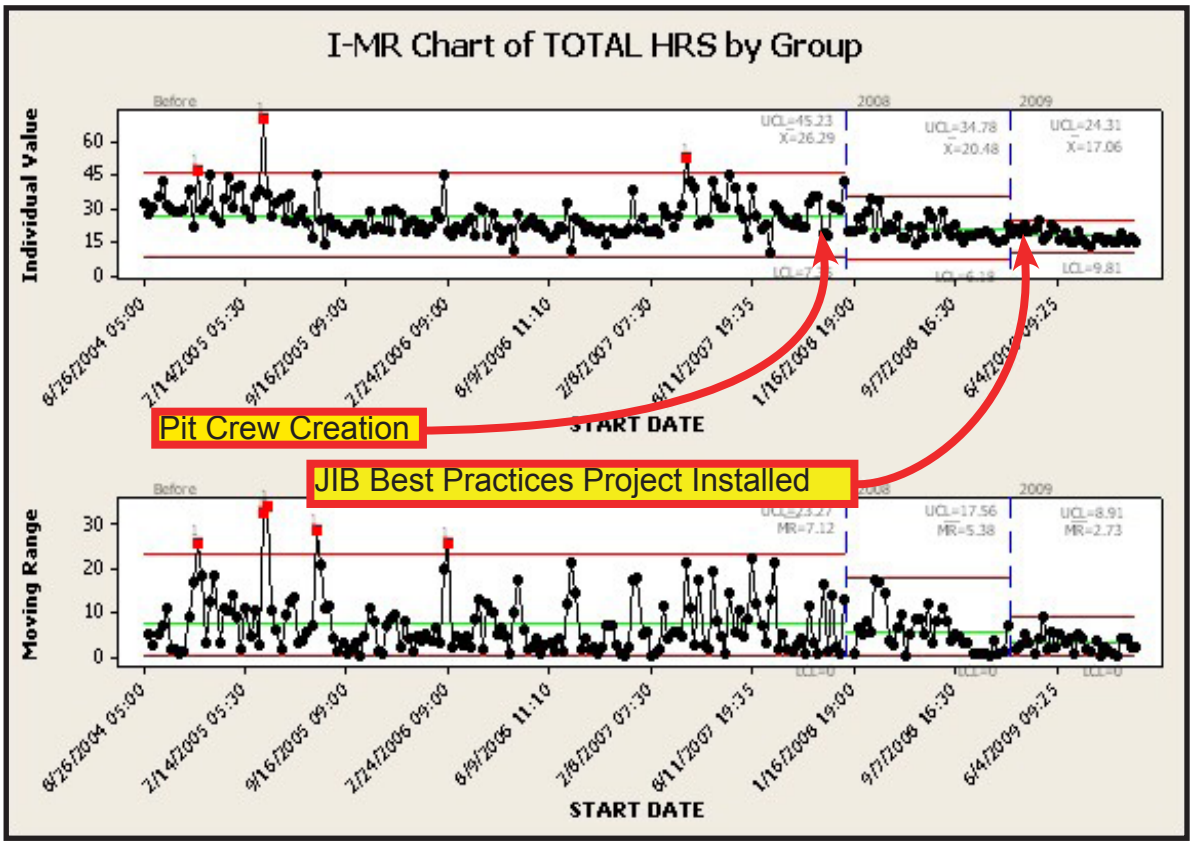
1. Lean Incorporation
2. Conduct Kanban Events for each Sub-Event
3. Create best practice techniques for each Sub-Event
4. Establish bench marks for each Sub-Event
5. Document and publish a Job Instruction Breakdown Manual
6. Increase performance feedback and reduce gap between actual event and feedback delivery
7. String Team Quarterly Design and Recognition Meetings
8. Investigate new ways to provide incentives for Pit Stop Crews

Results

2009 PIT STOP BLOCK RINSE SYSTEM IMPROVEMENT SUMMARY

Downtime hours reduced by 20%
Spin Mass Scrap reduced by 10%
2009 Cost Savings = $505,000
2009 Downtime Reduced by 20%





Two innovations (Pit Stop Crew creation and JIB-Best Practice Project) reduced downtime from 20.48 at the end of 2008 to 16.1 hours by the end of 2009.

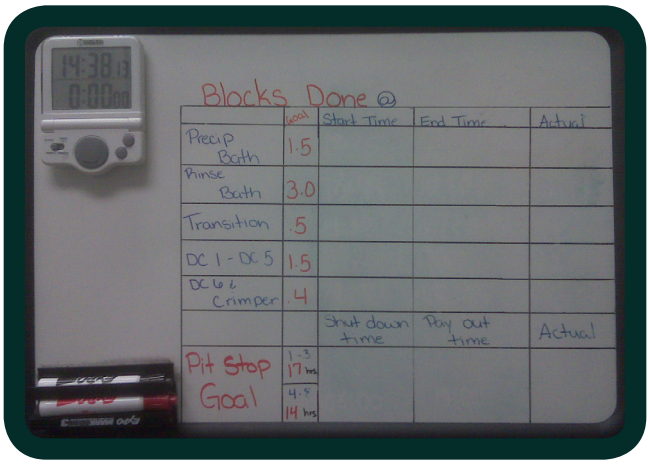
EXCELLENCE AWARDS SUMMARY

During 2009 each Team Member participated in improvement projects. They identified a need or problem and created a solution. Each solution was required to improve overall efficiency. The 2009 projects results are

The Kanban Board Project,
Pit Stop Crew Documentation Project
Job Instruction Breakdown Project
Precip and Outfeed Shadow Board Project

Because of the value of their contribution and demands, the assigned Crew members were paid a portion of the annual savings they generated. High turnover in the Pit Stop Crew will reduce the sustainability of present achievements and increase safety risks.

The Kanban Board

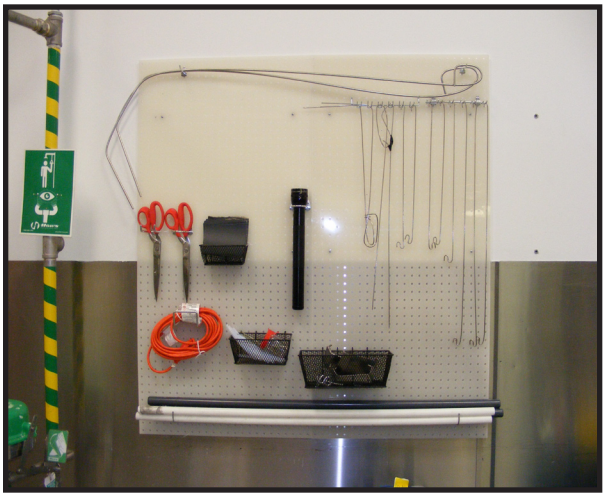


For each benchmark we (each Tech II and their Crew) created a project that included a Kanban Board to track Sub-Event completion times. Each event with its goal is listed before an event begins. During a Down Line an electronic timer records the rolling time of the entire event and the time required for completing a specific task. This provides instantaneous feedback and enables discussions about how to improve. The Kanban Board has eliminated dead time by integrating the work flow.

Pit Crew Documentation Project

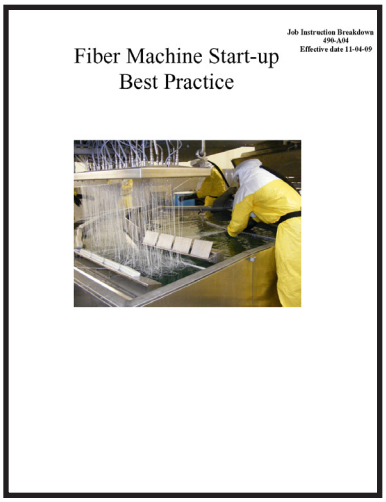
A documentation assignment was created for each Pit Stop Crew. Documentation became more accurate. The result was an improvement in identifying bottle-necks, resolving problems and liberated the Tech II to focus on machine issues.

Precip and Outfeed Shadow Boards



Misplaced tools caused excessive downtime. The Shadow Board enabled tools to be organized on hand before and during an event.

Job Instruction Breakdown Manuel Project



The Job Instruction Breakdown Manual

The best practice manual is to aid in the fiber machine startup process. It supports current Standard Operating Procedure. The manual procedurally and visually describes each sub event.

Conclusion

Our numbers are our conclusion. Our results speak for themselves. The Crews are preparing for 2010 by getting better. Since participation in this team is voluntary and the work requires a highly specialized effort, Crew members receive an incremental salary stipend.

Improvement Suggestions

Improvement Suggestions

1. Involve Crew members the process of documenting Sub-Events early in the project
2. Discovered ways to increase Crew member confidence
3. More frequent follow up on project progression
4. Have better ways to assess staff readiness and skill sets for projects
5. Install the RTG Excellence Awards incentive program sooner

Accelerating Measures

1. Involve all four shifts in project finding and project development
2. Continue RTG Excellence Awards
3. Improve on present bench mark performance
4. From comparisons of shift downtime, determine new ways to eliminate downtime variation between lines

Acknowledgments

Justin Pitt and Todd Saunders, Plant Six Sigma Black Belts and Lean Leaders, who gave us the general layout for conducting GEMBA events

Melissa Trujillo and John Ekstrom (TSII Dayshift) for their KIAZEN participation and unique projects

Peter Gorman and Joe Swift (TSII Night Shift) for their participation and follow through support for the Kanban events

Jason Hardy, Lee Bradbury, Rick Connell, and Bob Bercher (Shift Supervisors) for their willing support by providing staffing for Kanban events and projects

The Shift Technical Specialists: Raudel Diaz, Lisa Thompson, Angel Hurtado, Catey Martinez, Jesse Johns, Adrian Estrata, Stef Simmons, and Josh Whitesides for their support and participation in reducing line downtime.

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THE UTAH SPINNERET
Innovating with Quality and Production

Don Tobler

Fiber Spin Block Technician Supervisor

and

Parry Olsen

Spin Block Quality Technician

Work Assignment:
Manufacture of Spinnerets and Spinneret Block Maintenance

Fiber Division

Fresenius Medical Care North America

Ogden, Utah

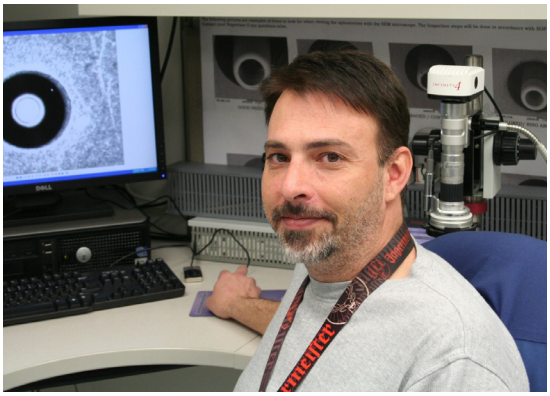
January – December 2009

"As a team and a team player there is no limitation, only our own Expectation."

Don Tobler

Fiber Block Maintenance Supervisor

Don started working for Fresenius in 2003 as a Dialyzer Maintenance Technician. In 2004 he was put in charge of the Carousel Station rebuild & Blade Sharpening Shop. In one year he accepted the Block Maintenance Position in the Fiber Department. Then, in 2008 he was promoted to Block Maintenance Supervisor in the Fiber Department.



"Experience is a great teacher"

Parry Olsen

Spin Block Maintenance Technician

Parry began working with Fresenius started as SOS employee in August of 2003. He started in Fiber Production and was hired full time in February 2004. Within four months he was working with Maintenance. While working with Maintenance, one of his tasks was working with the spin blocks. His intention at that time was to continue working with Maintenance and get a position with them. Parry heard rumors of a Spin Block Maintenance Technician becoming available full time and decided to pass on the Maintenance position in hopes of becoming a Spin Block Maintenance Technician. In August of 2004 he was hired as a full time Spin Block Maintenance Technician. He continues working with the Spin Block Maintenance Team.

ABSTRACT:

The Utah Spinneret has a definite impact on the quality of fiber produced. With the increase of information and equipment technology the Ogden, Utah Plant is capable of manufacturing and maintaining a high quality spinneret. The Utah Spinneret is manufactured at a 70% cost savings when compared to previously used spinnerets. The Utah Spinneret has a definite impact on the quality of fiber produced. Furthermore, the Utah Spinneret has reduced block failures and directly impacted line downtime.

TABLE OF CONTENTS:

Introduction

Bubble Point Rate (BP) is the measurement used to determine quality of the fiber Fresenius Ogden produces. Fiber production requires 32 blocks of 48 spinnerets (1536 spinnerets per fiber production line).

The plant runs 8 fiber production lines with 12,288 spinnerets. Each spinneret is an important part in the fiber production process. Ogden can manufacture and maintain a higher quality spinneret. We now know that quality of the spinneret has a direct relationship in reducing BP and determining the quality of our fiber.

Statement of Purpose

The 2009 purpose is to support the fiber production process by manufacturing, maintaining, and improving spinnerets.

Research Conducted

Initially, spinnerets manufactured in Ogden were sent to Germany for analysis. Pictures from Germany showed multiple flaws in the Ogden produced spinneret. Steps were taken to eliminate spinneret flaws. Between 2005 and 2008 in-house spinneret research surfaced and resolved issues with overall production which demonstrated that significant improvements were being made showing; block maintenance cost avoidance, and a 17% decrease in startup times.

Improvements included:

- Standard operating procedures
- Reclaiming
- Toggle press
- Serializing spinnerets
- Cleaning processes
- Data base creation for spinneret production
- Clarifying spinneret specifications
- Managing needle production
- Contamination
- ‘O’ ring failures
- Preventative maintenance
- Flow testing procedures
- Honing procedures
- Needle height specifications

Hypothesis

If we can improve spinneret production then we will be able to maintain a higher quality fiber at a lower Bubble Point.

Materials and Procedure Lists

Materials List

1. Citizen Cincom K16 (K16)
2. Hitachi TM 1000 Scanning Electron Microscope (SEM)
3. Hirox Microscope (Hirox)
4. Optical Gaging Products Microscope (Smart Scope)
5. Texas Airtronics Sand Blaster (800 Grit Sand)
6. Dial Indicators
7. Needle flow stations
8. Honing stations

Procedure List

1. Continue improvement meetings
   - Discuss plans and progress with Brett Barton
   - Ongoing Standard Operating Procedures (SOP) adjustments
2. SEM Microscope Access
   - Quality assurance
3. Continue research and development participation
4. Continue internal spinneret testing and evelopment
5. Validate manufacturing processes
6. Validate needle flow testing improvements
7. Manufacture and validate Utah spinnerets
8. Introduce Utah manufactured spinnerets into full production

Results

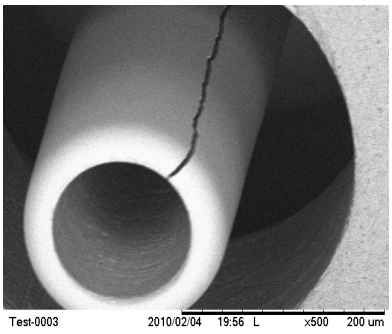
2009 IMPROVEMENT SUMMARY

Completed over 9,800 SEM spinneret inspections = 66% completion rate
Manufactured over 2,400 new spinneret
2009 Improvement Value =$170,000

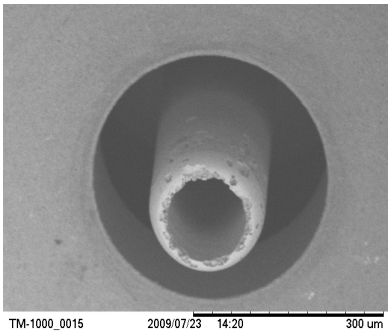
During 2009, eight Standard Operating Procedures were modified or created. As the improvements in production were implemented block production and quality improved. In March 2009 SEM scanned blocks were introduced to production lines.

ISOLATING AND REMOVING DEFECTIVE SPINNERETS

With the SEM defects in spinnerets were isolated. (Photographs by Jesus Mendez)



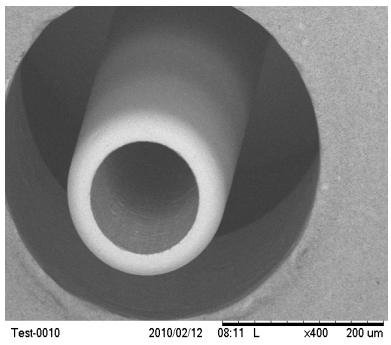
New spinneret never placed in production after SEM inspection.



Old spinneret removed from production after Preventive Maintenance and SEM inspection .

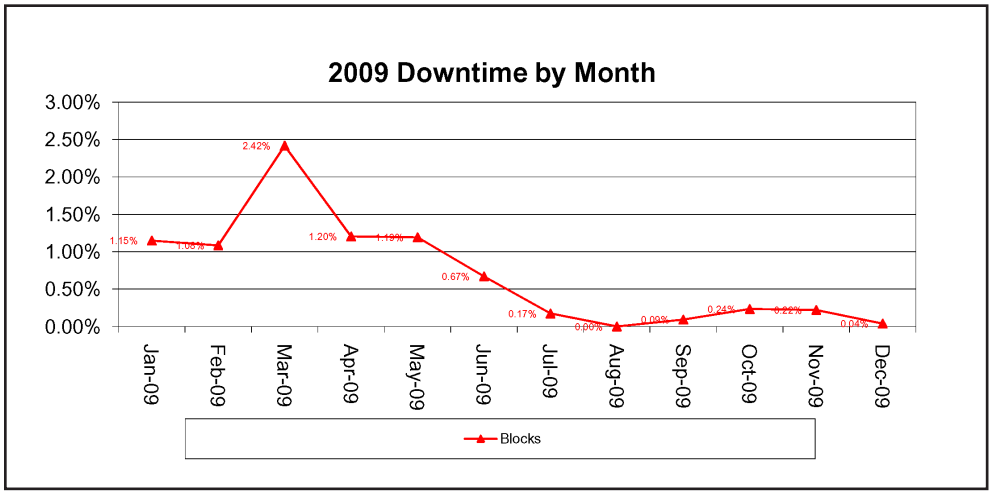
THE UTAH SPINNERET

Every Utah Spinneret is totally within specifications. (Photographs by Parry Olsen and Jesus Mendez)



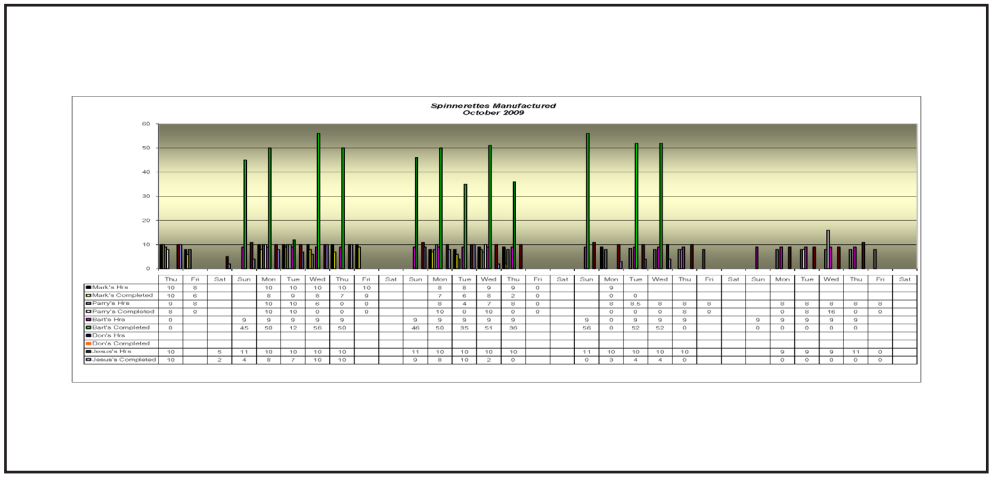
The Utah Spinneret passes 20 quality assurance steps during it production.

BLOCK DOWN TIME REDUCED BY UTAH SEM SPINNERET



The Utah Manufactured Spinneret was placed into full production on March 14, 2009.

TEAM MEMBERS CONTROLLED THEIR INDIVIDUAL GOALS

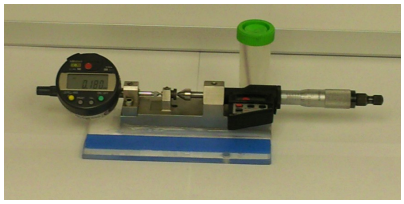


This example graph shows the number of Utah Spinnerets produced in October 2009 by individual team members. These spinnerets were manufactured for Lines 9 and 10. Graphing individual team members started in September 2008. Each team member kept their daily production graph up to date. Daily Graphing kept the Block Department leader informed of individual performance differences. Each team member took responsibility for achieving their own goals and their best practices were reinforced. The Block Department Leader and individual team members were able to identify weaknesses in production and then improve or eliminate that weakness.

DESIGN / REDESIGN / RECONFIGURATION OF TOOLS

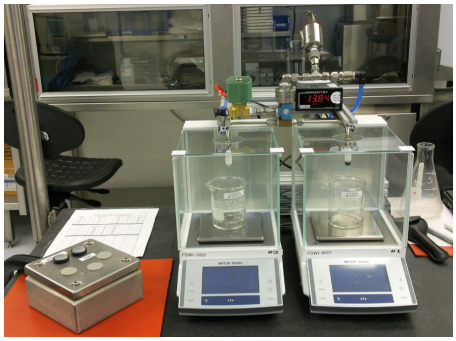
Tools previously redesigned or reconfigured by the Spinneret Manufacturing Team which contributed to 2009 results. (Photographs by Bart Bell)

NEEDLE INSERTION TOOL



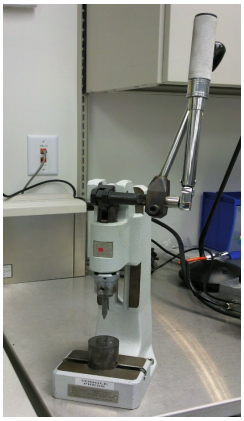
This tool enables team member to rapidly insert spinneret needles into the body and assuring correct needle height. (Designed and Manufactured by Danen Petersen and Don Tobler)

NEEDLE FLOW TEST STATION



The needle flow test station assures needle flow specifications to within -.01 to +.05 grams.
(Designed and Manufactured by Don Tobler)

TOGGLE PRESS



The Toggle Press eliminates leakage around the needle and stabilizes the needle height. (Designed and Manufactured by Greg Kunz and Don Tobler)

Conclusion

We accomplished what we set out to do. The Utah Manufactured Spinnerets are in production. A lot of changes could have happened faster with an open flow of information.

Improvement Suggestions

Improvement Suggestions

1. Increase spinneret production.
2. Improve tempering flow throughout the block.
3. Procedure Journal keeping

Accelerating Measures

1. Contribute to increasing line running time beyond present rates.
2. Discover ways to speed production and increase quality.
    a. Reduce overall production time
    b. Reduce rejects
    c. Increase time between spinneret caused downtime
3. Enhance Record Keeping
4. Reduce spinneret maintenance scanning time

Acknowledgments

Greg Kunz, for initial leadership and vision

Parry Olsen, Spin Block Quality Technician

Bart Bell, Lead Spin Block Quality Technician

Jesus Mendez, Spin Block Quality Technician

Kyle Whitney, Spin Block Quality Technician

Dr. Ho, Ogden Research and Development Group for SEM access

Jenny Paquette, for accuracy in documenting SOPs

Mark Gilbert, for validation of spinnerets

Sheryl Ford, Research and Development Department, for validating fiber from Utah Manufactured Spinnerets

Brett Barton, Director, Fresenius Fiber Manufacturing Division for creating the vision and supporting the development of a highly efficient Utah Manufactured Spinneret.

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Lessons Learned

Remember, attitude is just a direction in which we lean.
Strive to be the best and never settle for anything less.

Gail Perkes (Page 17)

If you always do what you always did, you'll always get what you always got!
CHANGE is essential if improvement is to be achieved.

Bob Bercher (Page 29)

You will be a much better leader if your people feel like they want to work and not half to work.
This comes from listening not telling people what to do.

Lee Bradbury (Page 41)

It's amazing what gets accomplished if you don't care who gets the credit.

Jason Hardy (Page 51)

Rule number one STAY CALM no matter what happens.
If you over react it only makes things worse.

Richard Connell (Page 61)

When you have your freedom and you are accountable your only limitation is yourself.

Greg Kunz and Michael Hardman (Page71)

There is no magic pill or instant download for success. There
is only Vision, Focus, Determination, and Hard Work.

Todd Harris (Page 79)

You can't accomplish it if you can't dream it. Dream bigger, achieve more

Wade Paskett (Page 87)

We all have the ability to create our own future.

Bruce N Mayhew (Page 95)

As a team and a team player there is no limitation, only our own expectation.

Don Tobler (Page 105)

Experience is a great teacher.

Parry Olsen (Page 105)